FINAL SUBMITTAL

VOLUME II OF II, APPENDICES E & F

ENERGY SAVINGS OPPORTUNITY SURVEY FORT GILLEM, GEORGIA

Prepared for

SAVANNAH DISTRICT
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

Under

CONTRACT NO. DACA21-91-C-0097

September 1992

EMC No. 3105-000

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Marie Wakefield,
Librarian Engineering

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LIST OF ABBREVIATIONS

ACH	-	air changes per hour
AAFES	-	Army Air Force Exchange Service
AHU	-	air handling unit
Bldg	-	building
cfm	-	cubic feet per minute
conf.	-	confirmation
DCU	-	digital control unit
DDC	-	direct digital control
DEH	-	Director of Engineering and Housing
DHW	-	domestic hot water
DX	-	direct expansion
ECIP	-	Energy Conservation Investment Program
ECO(s)	-	Energy Conservation Opportunity(ies)
ESOS	-	energy savings opportunity survey
F	-	Fahrenheit
FCU	-	fan coil unit
ft	-	foot, feet
FY	-	fiscal year
gpm	-	gallons per minute
hp	-	horsepower
HPS	-	high pressure sodium
hr	-	hour(s)
HW	-	hot water
in.	-	inch(es)
kVar	-	kilovolt amp reactive
kW	-	kilowatt, one thousand watts
kWh	-	kilowatt-hour, one thousand watthours
LAPS	-	lighting automation panels
LBH	-	pounds per hour
lbm	-	pounds mass
LCCID	-	Life Cycle Cost in Design
MBtu	-	British thermal units (thousand)
mcf	-	thousand cubic feet

LIST OF ABBREVIATIONS
(Continued)

MCA	-	Military Construction Army Program
MCP	-	Military Construction Program
NAF	-	non-appropriated funds
PRV	-	pressure reducing valve
psia	-	pounds per square inch, absolute
psig	-	pounds per square inch, gauge
QRIP	-	Quick Return on Investment Program
RCU	-	remote control unit
rpm	-	revolutions per minute
SES	-	Shared Energy Savings
SIOH	-	supervision, inspection, and overhead
SIR	-	Savings-to-Investment Ratio
SOW	-	Scope of Work
therm	-	100,000 Btus
UCS	-	utility control system
UPW	-	uniform present worth

APPENDIX E

COMPUTER ENERGY SIMULATION BACKUP DATA

BUILDING 101

E M C ENGINEERS, INC.

PROJECT: FORT McPHERSON & FORT GILLEM ESOS STUDY
LOCATION: FORT GILLEM
ECO: Computer Simulation Summary

CLIENT CONTRACT NO: DACA21-91-C-0097
CLIENT PROJECT ENG: TERRY SEABROOK

EMC PROJECT: #3105.000
DATE: 13-APR-92
FILE: G101ECO.WK3
PREPARED BY: R. GERRANS
CHECKED BY:

Bldg: G101 Area: 120,182 ft^2

Run Description	Heating Gas Use (kBtu/yr)	Heating Electric Use (kWh/yr)	Cooling Electric Use (kWh/yr)	Fan Electric Use (kWh/yr)	Pump Electric Use (kWh/yr)	Lighting Electric Use (kWh/yr)	Recept. Electric Use (kWh/yr)	Total Electric Use (kWh/yr)	Peak Electric Demand (kW)	Total Gas Use (MBtu/yr)	Total Energy Use (Mbtu/yr)
Baseline	523,833	8,551	299,666	416,645	236,958	729,764	439,234	2,130,817	670	524	7,794
ECO#1 – Wall	305,157	6,736	283,434	416,645	236,958	729,764	439,234	2,112,770	651	305	7,514
Savings/(Loss)	218,676	1,815	16,232	0	0	0	0	18,047	19	219	280
ECO#2	401,179	6,910	297,925	416,645	236,958	729,764	439,234	2,127,435	661	401	7,660
Savings/(Loss)	122,653	1,641	1,741	0	0	0	0	3,382	9	123	134
ECO#3	505,158	8,356	299,243	416,645	236,958	729,764	439,234	2,130,199	668	505	7,773
Savings/(Loss)	18,675	196	423	0	0	0	0	618	2	19	21
ECO#6	523,833	8,551	297,878	416,645	236,958	729,764	439,234	2,129,030	670	524	7,788
Savings/(Loss)	0	0	1,788	0	0	0	0	1,788	0	0	6
ECO#7	290,370	2,538	277,213	416,645	140,860	729,764	439,234	2,006,253	670	290	7,136
Savings/(Loss)	233,463	6,013	22,453	0	96,098	0	0	124,564	0	233	658
ECO#12	221,515	2,047	192,948	349,638	132,000	729,764	439,234	1,845,631	613	222	6,519
Savings/(Loss)	302,318	6,504	106,718	67,007	104,958	0	0	285,187	57	302	1,275
ECO#13	523,833	8,551	312,788	416,645	236,958	729,764	439,234	2,143,939	544	524	7,839
Savings/(Loss)	0	0	(13,122)	0	0	0	0	(13,122)	126	0	(45)
ECO#15	565,330	9,020	281,067	416,645	236,958	613,004	439,234	1,995,929	670	565	7,375
Savings/(Loss)	(41,498)	(469)	18,598	0	0	116,760	0	134,889	0	(41)	419

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JOB

SHEET NO. OF

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SCALE

Computer Simulation Bldg 101, Gillem

ECO #1 - Wall Insulation

Wall U-value

- add R-9 to existing wall

$R = 13.01$

$\boxed{U = 0.08}$

original $U = 0.25$

Area $= 35,512\ ft^2$

Original $UA = 8,878$

Improved $UA = 2,841$

$\Delta UA = 6,037$

Electric Savings

Total Electric Savings = 18,047 kWh/yr

Electric Savings / $\Delta UA = \boxed{3.0}$ kWh / ΔUA

Demand Savings

Peak Demand Savings = 19 kW

Demand Savings / $\Delta UA = \boxed{3.1 \times 10^{-3}}$ kW / ΔUA

Gas Savings

Total Gas Savings = 219 MBtu/yr

Gas Savings / $\Delta UA = \boxed{0.036}$ MBtu / ΔUA

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SCALE ______

Computer Simulation Bldg 101, Gillom

ECO # 2 - Insulated glass

Window U-Value - ASHRAE F 27.13

- double pane, Al frame, casement

$\boxed{U = 0.65}$

Window shading coefficient ASHRAE F 27.26

- light blinds

$\Rightarrow \boxed{0.58}$

Window Area = 6,468 ft^2

Electric Savings

Total Electric Savings = 3,382 kWh/yr

Electric Savings / ft^2 $\boxed{0.52}$ kWh/ft^2

Demand Savings

Peak Demand Savings = 9 kW

Demand Savings / ft^2 = $\boxed{1.4 \times 10^{-3}}$ kW/ft^2

Gas Savings

Total Gas Savings = 123 MBtu/yr

Gas Savings / ft^2 = $\boxed{0.019}$ MBtu/ft^2

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SCALE

Computer Simulation - Bldg 101, Gillom

ECO # 3 - Weather stripping + Caulking

$Q = L(A\Delta t + B v^2)^{1/2}$

A - stack coefficient = 0.0629 - 4 stories extrapolated ASHRAE Table F 23.7

B - wind coefficient = 0.0039 - medium shielding ASHRAE Table F23.8

V - avg. wind velocity = 12.65 mph

Δt = 72°F - 55°F = 17°F

L - effective length = Area * (in²/ft²) - ASHRAE Table F 23.3

$(A\Delta t + B v^2)^{1/2} = (0.0629(17) + 0.0039(12.65)^2)^{1/2} = 1.301$

Present

windows: no w s/c, single hung, mason wall

window: 0.063

frame: 0.093

doors: no w s/c, double, mason wall

door: 0.16

frame: 0.072

Improved

window: w s/c, single, hung, mason wall

window: 0.032

frame: 0.019

doors: w.s./c, double, mason wall

door: 0.114

frame: 0.0143

Room 1 - no infiltration

Room 2

window: 30 (28 ft²) = 840 ft²

doors: 7(5'×7') = 245 ft²

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SCALE

Computer Simulation - Bldg 101, Gillem

ECO #3 (cont)

Room 2 (cont)

Present

window: 0.063 (840) = 52.9

frame: 0.093 (840) = 78.1

door: 0.16 (245) = 39.2

frame: 0.072 (245) = 17.6

187.9

$Q = 187.9 (1.301) = 244$ cfm

Improved

window: 0.032 (840) = 26.9

frame: 0.019 (840) = 16.0

door: 0.114 (245) = 27.9

frame: 0.0143 (245) = 3.5

74.3

$Q = 74.3 (1.301) = 97$ cfm

$\Delta Q = 244 - 97 = \boxed{147 \text{ cfm}}$

Room 3 - no infiltration

Room 4

windows: 63 (28 ft²) = 1,764 ft²

Present

window: 0.063 (1,764) = 111.1

frame: 0.093 (1,764) = 164.1

275.2

$Q = 275.2 (1.301) = 358$ cfm

Improved

window: 0.032 (1,764) = 56.4

frame: 0.019 (1,764) = 33.5

90.0

$Q = 90.0 (1.301) = 117$ cfm

$\Delta Q = 358 - 117 = \boxed{241 \text{ cfm}}$

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SCALE

Computer Simulation Bldg 101, Gillem

ECO # 3 (cont)

Room 5

windows: 95 (28 ft²) = 2,660 ft²

Present

window: 0.063 (2,660) = 167.6

frame: 0.093 (2,660) = 247.4

415.0

Q = 415.0 (1.301) = 540 cfm

Improved

window: 0.032 (2,660) = 85.1

frame: 0.019 (2,660) = 50.5

135.6

Q = 135.6 (1.301) = 176 cfm

ΔQ = 540 - 176 = $\boxed{364 \text{ cfm}}$

Totals

Room 2: 2,052 cfm - 147 cfm = 1905 cfm

Room 4: 4,116 cfm - 241 cfm = 3875 cfm

Room 5: 5,821 cfm - 364 cfm = 5457 cfm

Δ cfm = $\boxed{752 \text{ cfm}}$

Electric Savings

Total Electric Savings = 668 kWh/yr

Electric Savings/cfm = $\boxed{0.89}$ kWh/cfm

Demand Savings

Peak Demand Savings = 2 kW

Demand Savings/cfm = $\boxed{2.7 \times 10^{-3}}$ kW/cfm

Gas Savings

Total Gas Savings = 19 MBtu/yr

Gas Savings = $\boxed{0.025}$ MBtu/cfm

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SCALE

Computer Simulation Bldg 101, Gillem

ECO # 6 - Economizers

- dry bulb economizers on 4^{th} floor AHU's, 100% OA

Electric Savings

Total Electric Savings = 37,833 kWh/yr

Demand Savings

Peak Demand Savings = 0 kW

Gas Savings

Total Gas Savings = 0.0 MBtu/yr

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CHECKED BY ______ DATE ______
SCALE ______

Computer Simulation   Bldg 101, Gillam

ECO #7 - Pump control

- Circulation Pumps - HW, DTW [illegible]
  - Cycle w/ load
  - Time clock, on 06:00 - 18:00 M-F, off otherwise
    for values to zone 2, 4, 6
- CHW Pumps
  - ¼ HP
  - Time clock on 06 00 - 18 00 M-F, off otherwise → off ≈ 5631 hrs
  - Savings = $\frac{(.25\ HP)(0.746\ kW/HP)(0.80)(5631\ hrs)}{(0.764\ eff)} = \boxed{1,158}$ kwh/yr

Total Usage

CHW1 + CHW2 + DTW + HW − 1,158

31,974 + 10,074 + 97,602 + 2,371 − 1,158 = 140,860 kwh/yr

Demand Savings

Peak Demand Savings = $\boxed{0}$ kW

Electric Savings

Total Electric Savings = $\boxed{124,564}$ kwh/yr

Gas Savings

Total Gas Savings = $\boxed{233}$ MBtu/yr

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SCALE

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Computer Simulation   Bldg 101, Gillem

ECO #12 - HVAC Controls

Fan Coils (1st + 2nd Floor)
- set back thermostats
- Fans on time clock : on: 06:00 - 18:00 M-F, off otherwise
- reset tstat set points; 70°F - Heating 78°F Cooling

AHU's (4th floor)
- set back thermostat
- Fans on time clock. on: 0600 - 1800 M-F, off otherwise
- Reset deck temperature (discriminator)
- Reset tstat setpoints, 70°F Heating 78°F Cooling

AHU's (1st + 3rd floor)
- Reset tstat setpoints: 70°F Heating 78°F Cooling

FCU's 3rd Floor
Reset tstat setpoints. 70°F Heating 78°F Cooling

Pumps
- Add cycling controls

Electric Savings
Total Electric Savings = $\boxed{285,187}$ kWh/yr

Demand Savings
Peak Demand Savings = $\boxed{57}$ kW

Gas Savings
Total Gas Savings = $\boxed{302}$ MBtu/yr

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CHECKED BY ______ DATE ______

SCALE ______

Computer Simulation   Bldg 101, Gillmor

ECO # 13 – Thermal Storage

Discharge Tank : [illegible]

Charge Tank 0:00 – 0600

Tank Capacity: 751 Ton-Hrs

Chiller Capacity: 125 Tons

Demand Savings — % Peak Chiller

#1 Chiller kw/ton = 1.147 kw/ton	11%	
#2 Chiller " = 1.129 kw/ton	19%	⇒ 1.085 kw/ton
#3 Chiller " = 1.064 kw/ton	70%	

Peak tons (Avg) = 116 tons

Peak demand Savings = 116 * 1.085 = 125.8 = $\boxed{126}$ kw

Additional Electrical

Additional Electrical = $\boxed{13,122}$ kwh/yr

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JOB ____

SHEET NO. ____ OF ____

CALCULATED BY ____ DATE ____

CHECKED BY ____ DATE ____

SCALE ____

Computer Simulation Bldg 101, Gillem

ECO #15 - Lighting Reduction

Light Reduction

reduction = 16%

Rm	Present (W)	Reduced (W)
1	12,100	10,164
2	12,800	10,752
3	18,820	15,809
4	34,930	29,341
5	58,740	49,342
6	28,750	24,150
	166,140	139,558

Reduced kWh = 116,760 kWh/yr

Electric Factor

Reduced electric use = cooling - heating 18,598 - 496 = 18,102 kWh/yr

Electric savings / lighting kWh = $\boxed{0.16}$ KWh saved / KWh lighting

Gas Factor

Increased gas use = 41.7 MBtu/yr

Gas increase / lighting kWh = $\boxed{3.6 \times 10^{-4}}$ MBtu/kWh

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SCALE

Computer Simulation   Bldg 101, Gillem [illegible]

Bldg Type: Brick Admin   Area 120,182 ft^2

ECO: 1, 2, 3, 6, 12, 13

Assumptions

- Heating db = 72 °F
- Cooling db = 76 °F
- Infiltration: 1½ ACH in fan coil areas
- OA Ventilation: 10% in AHU's

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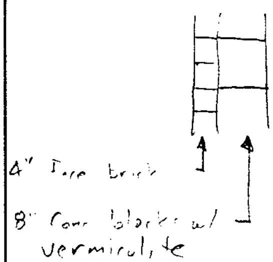
SCALE

Comp Simulation Bldg 101, Gillem

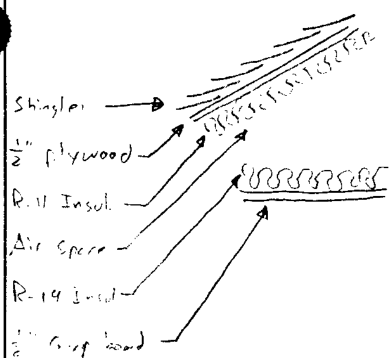
Wall U-Value - ASHRAE Table F 22.4



Material	R-Value
Outside Surface (15 mph wind)	0.17
4" Face brick	1.24
8" Conc block w/ vermiculite	1.92
Inside Surface (still air)	0.68
	4.01

$$U = \frac{1}{R} = \frac{1}{4.01} = \boxed{0.25}$$

Roof U-Value - ASHRAE Table F 22.4



Material	R-Value
Outside Surface (15 mph wind)	0.17
Shingles	0.44
½" Plywood	0.62
R-11 Insulation	11.0
Air Space	1.24
R-19 Insulation	19.0
½" Gyp. Board	0.45
Inside Surface (still Air)	0.68
	33.6

$$U = \frac{1}{33.6} = \boxed{0.03}$$

Window U-Value - ASHRAE Table F 27.13

- Single pane, casement, Al Frame $\Rightarrow U = \boxed{1.10}$

Window shade - ASHRAE Table F 27.25

- light venetian blinds

$\Rightarrow \boxed{0.67}$

Slab Perimeter Coefficient - ASHRAE Table F 25.5

$F_2 = \boxed{0.62}$ Btuh/°F ft

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Comp Sim Bldg 101, Gillam

Misc loads - Assumed

Rm	Btuh/ft²	
1	6	- Comp. rooms + offices
2	3	- offices
3	6	- Comp rooms + offices
4	4	- offices, computers
5	4	- offices computers
6	3	[illegible] offices, computers

Lighting Loads - From ECO #15

Rm	Watts
1	12,100
2	12,800
3	18,820
4	34,920
5	58,740
6	28,790

People - From field survey estimates

Rm	People
1	66
2	36
3	45
4	80
5	192
6	77

Infiltration

- Only in fan coil areas
- Assume 1½ Air Changes/Hour - very drafty as per field survey

Ventilation

- Assume 10% OA - from mech. equip schedules

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SCALE ______

Computer Simulation   Bldg 101, Gillam

Baseline (cont)

Pumps

CHW Pump #1: $\frac{(10\ HP)(0.746\ \frac{kW}{HP})(0.85)}{(0.865\ eff)} = 7.3\ kW * 4{,}380\ hr/yr = 31{,}974\ kWh/yr$

CHW Pump #2: $\frac{(3\ HP)(0.746\ \frac{kW}{HP})(0.85)}{(0.812\ eff)} = 2.3\ kW * 4{,}380\ hr/yr = 10{,}074\ kWh/yr$

DTW Pump: $\frac{(30\ HP)(0.746\ kW/HP)(0.85)}{(0.90\ eff)} = 21.1\ kW * 8{,}760\ hr/yr = 184{,}836\ kWh/yr$

HW Pump: $\frac{(3\ HP)(0.746\ kW/HP)(0.85)}{(0.812\ eff)} = 2.3\ kW * 4{,}380\ hr/yr = 10{,}074\ kWh/yr$

$\boxed{236{,}958}$ kWh/yr

01 Card - Job Information

Project: FT MCPHERSON & FT GILLEM EEAP
Location: FT GILLEM, BLDG 101
Program User: R. GERRANS

-----CARD 08-- Climatic Information

Weather Code	Summer Clearness Number	Winter Clearness Number	Summer Design Dry Bulb	Summer Design Wet Bulb	Winter Design Dry Bulb	Building Orientation	Summer Ground Reflect	Winter Ground Reflect
ATLANTA								

-----CARD 09-- Load Simulation Periods

1st Month Cooling Simulation	Last Month Cooling Simulation	Peak Cooling Load Hr	1st Month Summer Period	Last Month Summer Period	1st Month Daylight Savings	Last Month Daylight Savings
MAY	OCT					

-------------------- Load Section Alternative #1 --------------------

---- Load Alternative ----

Number	Description
1	BLDG G101, BASELINE

-----CARD 20-- General Room Parameters

Room Number	Zone Reference Number	Room Descrip	Floor Length	Floor Width	Const Type	Plenum Height	Acoustic Ceiling Resistance	Floor to Floor Height	Duplicate Floors Multiplier	Duplicate Rooms per Zone	Perimeter Depth
1	1	1ST FL AHU	20697	1		2		10			
2	2	1ST FL FC	10260	1		2		10			
3	3	2ND FL AHU	168.3	62		2		10			
4	4	2ND FL FC	280	73.5		2		10			
5	5	3RD FL FC	29105	1		2		10			
6	6	4TH FL AHU	29105	1		2		10			

-----CARD 21-- Thermostat Parameters --

Room Number	Cooling Room Design DB	Room Design RH	Cooling T'stat Driftpoint	Cooling T'stat Schedule	Heating Room Design DB	Heating T'stat Driftpoint	Heating T'stat Schedule	T'stat Location Flag	Mass / No. Hrs Average	Carpet On Floor
1	76			CLG	72		HTG			
2	76			CLG	72		HTG			
3	76			CLG	72		HTG			
4	76			CLG	72		HTG			
5	76			CLG	72		HTG			
6	76			CLG	72		HTG			

-----CARD 22-- Roof Parameters --

Room Number	Roof Number	Roof Equal to Floor?	Roof Length	Roof Width	Roof U-Value	Const Type	Roof Direction	Roof Tilt	Roof Alpha
6	1	YES			.03	39			

-----CARD 24-- Wall Parameters --

Room Number	Wall Number	Wall Length	Wall Height	Wall U-Value	Wall Constuc Type	Wall Direction	Wall Tilt	Wall Alpha	Ground Reflectance Multiplier
M	1		10	.25	87				
1	1	203.5				45			
1	2	125				135			
1	3	203.5				225			
1	4	188.5				315			
2	1	141.5				45			
2	2	83.5				135			
2	3	141.5				225			
2	4	20				315			
3	1	62				45			
3	2	80				135			
3	3	62				225			
3	4	80				315			
4	1	283				45			
4	2	103.5				135			
4	3	283				225			
4	4	103.5				315			
5	1	345				45			
5	2	163.5				135			
5	3	345				225			
5	4	163.5				315			
6	1	345				45			
6	2	163.5				135			
6	3	345				225			
6	4	163.5				315			

-----CARD 25-- Wall/Glass Parameters --

Room Number	Wall Number	Glass Length	Glass Width	Pct Glass or No. of Windows	Glass U-Value	Shading Coefficient	External Shading Type	Internal Shading Type	Percent Solar to Ret. Air	Visible Transmittance	Inside Visible Reflectance
M	1	7	4		1.1	.67					

-----CARD 25-- Wall/Glass Parameters -----

Room Number	Wall Number	Glass Length	Glass Width	Pct Glass or No. of Windows	Glass U-Value	Shading Coefficient	External Shading Type	Internal Shading Type	Percent Solar to Ret. Air	Visible Transmittance	Inside Visible Reflectance
1	1			15							
1	2			9							
1	3			6							
1	4			8							
2	1			13							
2	2			7							
2	3			8							
2	4			2							
3	1			5							
3	2										
3	3										
3	4										
4	1			26							
4	2			10							
4	3			19							
4	4			8							
5	1			31							
5	2			18							
5	3			28							
5	4			18							
6	1										
6	2										
6	3										
6	4										

-----CARD 26-- Schedules -----

Room Number	People	Lights	Ventilation	Infiltration	Reheat Minimum	Cooling Fans	Heating Fan	Auxiliary Fan	Room Exhaust	Daylighting Controls
1	ADMPPL	ADMLGTEQ	AVAIL	OFF		AVAIL				
2	ADMPPL	ADMLGTEQ	OFF	AVAIL		AVAIL				
3	ADMPPL	ADMLGTEQ	AVAIL	OFF		AVAIL				
4	ADMPPL	ADMLGTEQ	OFF	AVAIL		AVAIL				
5	G1013PPL	G1013LGT	OFF	AVAIL		AVAIL				
6	ADMPPL	ADMLGTEQ	AVAIL	OFF		AVAIL				

-----CARD 27-- People and Lights -----

Room Number	People Value	People Units	People Sensible	People Latent	Lighting Value	Lighting Units	Lighting Fixture Type	Ballast Factor	Percent Lights to Ret. Air	--- Daylighting ---- Reference Point 1	Reference Point 2
1	66	PEOPLE	250	200	12100	WATTS					
2	36	PEOPLE	250	200	12800	WATTS					

-----CARD 27-- People and Lights --

Room Number	People Value	People Units	People Sensible	People Latent	Lighting Value	Lighting Units	Lighting Fixture Type	Ballast Factor	Percent Lights to Ret. Air	--- Daylighting ---- Reference Point 1	Reference Point 2
3	45	PEOPLE	250	200	18820	WATTS					
4	80	PEOPLE	250	200	34930	WATTS					
5	192	PEOPLE	250	200	58740	WATTS					
6	77	PEOPLE	250	200	28750	WATTS					

-----CARD 28--- Miscellaneous Equipment --

Room Number	Misc Equipment Number	Equipment Descrip	Energy Consump Value	Energy Consump Units	Schedule Code	Energy Meter Code	Percent of Load Sensible	Percent Misc. Load to Room	Percent Misc. Sens to Ret. Air	Radiant Fraction	Optional Air Path
1	1	MISC EQUIP	6	BTUH-SF	ADMLGTEQ	ELEC					
2	1	MISC EQUIP	3	BTUH-SF	ADMLGTEQ	ELEC					
3	1	MISC EQUIP	6	BTUH-SF	ADMLGTEQ	ELEC					
4	1	MISC EQUIP	4	BTUH-SF	ADMLGTEQ	ELEC					
5	1	MISC EQUIP	4	BTUH-SF	G1013EQ	ELEC					
6	1	MISC EQUIP	3	BTUH-SF	ADMLGTEQ	ELEC					

-----CARD 29--- Room Airflows --

	--------------Ventilation--------------				--------------Infiltration-------------					
	-----Cooling-----		-----Heating-----		-----Cooling-----		-----Heating-----		--Reheat Minimum--	
Room Number	Value	Units	Value	Units	Value	Units	Value	Units	Value	Units
1	10	PCT-MCLG	10	PCT-MCLG						
2					1.5	ACH-HR	1.5	ACH-HR		
3	10	PCT-MCLG	10	PCT-MCLG						
4					1.5	ACH-HR	1.5	ACH-HR		
5					1.5	ACH-HR	1.5	ACH-HR		
6	10	PCT-MCLG	10	PCT-MCLG						

-----CARD 32-- Exposed Floor Parameters--

		-----Slab------		-------------------------Exposed Floor-------------------------						
Room Number	Exposed Floor Number	Perimeter Length	Loss Coefficient	Floor Area	Floor U-Value	Const Type	Temp Flag	Cooling Temp	Heating Temp	Adjacent Room No
1	1	700.5	.62							
2	1	386.5	.62							

-------------------- System Section Alternative #1 --------------------

-----CARD 39-- System Alternative -----

Number	Description
1	BLDG G101, BASELINE

-----CARD 40--- System Type ---

		------------OPTIONAL VENTILATION SYSTEM------------					
System Set Number	System Type	Ventil Deck Location	Cooling SADBVh	Heating SADBVh	Cooling Schedule	Heating Schedule	Fan Static Pressure
1	SZ						
2	FC						
3	SZ						
4	FC						
5	FC						
6	SZ						

-----CARD 41-- Zone Assignment --

System Set Number	Ref #1		Ref #2		Ref #3		Ref #4		Ref #5		Ref #6	
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End
1	1	1										
2	2	2										
3	3	3										
4	4	4										
5	5	5										
6	6	6										

-----CARD 42--- Fan SP and Duct Parameters---

System Set Number	Cool Fan SP	Heat Fan SP	Return Fan SP	Mn Exh Fan SP	Aux Fan SP	Rm Exh Fan SP	Cool Fan Mtr Loc	Return Fan Mtr Loc	Supply Duct Ht Gn	Supply Duct Loc	Return Air Path
1	2.5						SUPPLY			OTHER	DUCTED
2	.5						RETAIR			OTHER	ROOMDK
3	2.5						SUPPLY			OTHER	DUCTED
4	.5						RETAIR			OTHER	ROOMDK
5	.5						RETAIR			OTHER	ROOMDK
6	2.5						SUPPLY			OTHER	DUCTED

-----CARD 45--- Equipment Schedules ---

System Set Number	Main Cooling Coil	Economizer	Direct Evap Coil	Indirect Evap Coil	Auxiliary Cooling Coil	Main Heating Coil	Main Preheat Coil	Reheat Coil	Mech. Humidity	Auxiliary Heating Coil
1	CLGC					HTGC				
2	CLGC					HTGC				
3	CLGC					HTGC				
4	CLGC					HTGC				
5	CLGC					HTGC				
6	CLGC					HTGC				

-------------------- Equipment Section Alternative #1 --------------------

-----CARD 59-- Equipment Description / TOD Schedules -----------------

Alternative Number	Elec Consump Time of Day Schedule	Elec Demand Time of Day Schedule	Demand Limit Max KW	Alternative Description
1				BLDG G101, BASELINE

-----CARD 60--- Cooling Load Assignment---

Load Asgn Ref	All Coil Loads To Cool Ref	Cooling Equipment Sizing	-Group 1- Begin	End	-Group 2- Begin	End	-Group 3- Begin	End	-Group 4- Begin	End	-Group 5- Begin	End	-Group 6- Begin	End	-Group 7- Begin	End	-Group 8- Begin	End	-Group 9- Begin	End
1	1	BLKPLANT	1	1																
2	2	BLKPLANT	3	3																
3	3	BLKPLANT	6	6																
4	4	BLKPLANT	2	2	4	5														

-----CARD 62-- Cooling Equipment Parameters --

Cool Ref Num	Equip Code Name	Num Of Units	------------COOLING------------ --Capacity-- Value	Units	----Energy---- Value	Units	---------HEAT RECOVERY---------- --Capacity-- Value	Units	----Energy---- Value	Units	Seq Order Num	Seq Type	Demand Limit Number
1	EQ1121S	1											
2	EQ1120S	1											
3	EQ1171L	1											
4	EQ1122L	2											

-----CARD 63-- Cooling Pumps and References --

Cool Ref Num	---CHILLED WATER---- Full Load Value	Full Load Units	-----CONDENSER------ Full Load Value	Full Load Units	---HT REC or AUX---- Full Load Value	Full Load Units	Switch-over Control	Cold Storage	Cooling Tower	Misc. Access.
1	7.3	KW								
2	2.3	KW								
4	21.1	KW								

-----CARD 65-- Heating Load Assignment --

Load Assignment Reference	All Coil Loads To Heating Ref	-Group 1- Begin	End	-Group 2- Begin	End	-Group 3- Begin	End	-Group 4- Begin	End	-Group 5- Begin	End	-Group 6- Begin	End	-Group 7- Begin	End	-Group 8- Begin	End	-Group 9- Begin	End
1	1	2	2	4	5														
2	2	1	1	3	3	6	6												

-----CARD 67-- Heating Equipment Parameters --

Heat Ref Number	Equip Code Name	Number Of Units	HW Pmp Full Ld Value	Units	Cap'y Value	Units	Energy Rate Value	Units	Seq Order Number	Switch over Control	Hot Strg	Misc. Acc.	Cogen	Demand Limit Number
1	EQ2001	1	21.1	KW	5250	MBH								
2	EQ2002	1	2.3	KW	589.6	MBH								

-----CARD 69-- Fan Equipment Parameters --

System Set Number	Cooling Fan	Heating Fan	Return Fan	Exhaust Fan	Auxiliary Supply	Room Exhaust	Optional Ventilation
1	EQ4003						
3	EQ4003						
4	EQ4371						
5	EQ4371						
6	EQ4003						

Utility Description Reference Table

- Schedules:
  - ADMLGTEQ ADMIN LIGHTING AND EQUIPMENT
  - ADMPPL ADMIN PEOPLE SCHEDULE
  - AVAIL AVAILABLE (100%)
  - CLG COOLING TSTAT SCHEDULE
  - CLGC COOLING COIL SCHEDULE
  - G1013EQ G101 3RD FLOOR EQUIPMENT SCHEDULE
  - G1013LGT G101 3RD FLOOR LIGHTING SCHEDULE
  - G1013PPL G101 3RD FLOOR PEOPLE SCHEDULE
  - HTG HEATING TSTAT SCHEDULE
  - HTGC HEATING COIL SCHEDULE
  - OFF ALWAYS OFF
- System:
  - FC FAN COIL
  - SZ SINGLE ZONE
- Equipment:
  - Cooling:
    - EQ1120S AIR-CLD RECIP <20 TONS
    - EQ1121S AIR-CLD RECIP 20-35 TONS
    - EQ1122L AIR-CLD RECIP >55 TONS
    - EQ1171L AIR-CLD COND COMP 35-60 TONS
  - Heating:
    - EQ2001 GAS FIRE TUBE HOT WATER
    - EQ2002 GAS FIRE TUBE STEAM
  - Fan:
    - EQ4003 FC CENTRIF. FAN C.V.
    - EQ4371 FAN COIL SUPPLY FAN

Schedule Name: ADMLGTEQ
Project: ADMIN LIGHTING AND EQUIPMENT SC
Location:
Client:
Program User:
Comments: OFFICE LIGHTING

Starting Month: JAN   Ending Month: DEC
Starting Day Type: DSGN   Ending Day Type: WKDY

Hour	Util Percent
0	5
7	80
8	100
12	80
13	100
16	80
17	40
18	5
24	

Starting Month: JAN   Ending Month: DEC
Starting Day Type: SAT   Ending Day Type: SUN

Hour	Util Percent
0	5
24	

Schedule Name: ADMPPL
Project: ADMIN PEOPLE SCHEDULE
Location:
Client:
Program User: D JONES
Comments: OFFICE PEOPLE SCHEDULE

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: WKDY

Hour	Util Percent
0	0
7	50
8	100
11	80
12	40
13	80
14	100
16	70
17	30
18	0
24	

Starting Month: JAN Ending Month: DEC
Starting Day Type: SAT Ending Day Type: SUN

Hour	Util Percent
0	0
24	

Schedule Name: AVAIL
Project: AVAILABLE (100)
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: HTG
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	100
24	

Schedule Name: CLG
Project: COOLING TSTAT SCHEDULE
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Temperature
0	76
24	

Schedule Name: CLGC
Project: COOLING COIL SCHEDULE
Location:
Client:
Program User: R. GERRANS
Comments:

Starting Month: JAN Ending Month: APR
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	0
24	

Starting Month: MAY Ending Month: OCT
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	100
24	

Starting Month: NOV Ending Month: HTG
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	0
24	

Schedule Name: G1013EQ
Project: G101 3RD FLOOR EQUIPMENT SCHEDU
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: WKDY

Hour	Util Percent
0	20
7	80
8	100
12	80
13	100
16	80
17	40
18	20
24	

Starting Month: JAN Ending Month: DEC
Starting Day Type: SAT Ending Day Type: SUN

Hour	Util Percent
0	20
24	

Schedule Name: G1013LGT
Project: G101 3RD FLOOR LIGHTING SCHEDU
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: WKDY

Hour	Util Percent
0	80
8	100
12	80
13	100
16	80
24	

Starting Month: JAN Ending Month: DEC
Starting Day Type: SAT Ending Day Type: SUN

Hour	Util Percent
0	80
24	

Schedule Name: G1013PPL
Project: G101 3RD FLOOR PEOPLE SCHEDULE
Location:
Client:
Program User: D JONES
Comments: OFFICE PEOPLE SCHEDULE

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: WKDY

Hour	Util Percent
0	5
7	50
8	100
11	80
12	40
13	80
14	100
16	70
17	30
18	5
24	

Starting Month: JAN Ending Month: DEC
Starting Day Type: SAT Ending Day Type: SUN

Hour	Util Percent
0	5
24	

Schedule Name: HTG
Project: HEATING TSTAT SCHEDULE
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Temperature
0	72
24	

Schedule Name: HTGC
Project: HEATING COIL SCHEDULE
Location:
Client:
Program User: R. GERRANS
Comments:

Starting Month: JAN Ending Month: APR
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	100
24	

Starting Month: MAY Ending Month: OCT
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	0
24	

Starting Month: NOV Ending Month: HTG
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	100
24	

Schedule Name: OFF
Project: ALWAYS OFF
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: HTG
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	0
24	

```
******************************************************************************
******************************************************************************
**                                                                          **
**                T R A C E   6 0 0   A N A L Y S I S                       **
**                                                                          **
**                by            **
**                                                                          **
******************************************************************************
******************************************************************************
```

FT MCPHERSON & FT GILLEM EEAP
FT GILLEM, BLDG 101

R. GERRANS

Weather File Code:	ATLANTA.	
Location:	ATLANTA, GEORGIA	
Latitude:	33.0	(deg)
Longitude:	84.0	(deg)
Time Zone:	6	
Elevation:	1,005	(ft)
Barometric Pressure:	28.8	(in. Hg)
Summer Clearness Number:	0.90	
Winter Clearness Number:	0.90	
Summer Design Dry Bulb:	92	(F)
Summer Design Wet Bulb:	74	(F)
Winter Design Dry Bulb:	22	(F)
Summer Ground Relectance:	0.20	
Winter Ground Relectance:	0.20	
Air Density:	0.0731	(Lbm/cuft)
Air Specific Heat:	0.2444	(Btu/lbm/F)
Density-Specific Heat Prod:	1.0727	(Btu-min./hr/cuft/F)
Latent Heat Factor:	4,721.8	(Btu-min./hr/cuft)
Enthalpy Factor:	4.3883	(Lb-min./hr/cuft)

Design Simulation Period: May To October
System Simulation Period: January To December
Cooling Load Methodology: TETD/Time Averaging

Time/Date Program was Run: 13:26:13 4/ 7/92
Dataset Name: G101-B .TM

AIRFLOW - ALTERNATIVE 1
BLDG G101, BASELINE

SYSTEM SUMMARY
(Design Airflow Quantities)

System Number	System Type	Main: Outside Airflow (Cfm)	Main: Cooling Airflow (Cfm)	Main: Heating Airflow (Cfm)	Main: Return Airflow (Cfm)	Main: Exhaust Airflow (Cfm)	Auxil. Supply Airflow (Cfm)	Room Exhaust Airflow (Cfm)
1	SZ	2,123	21,228	21,228	21,228	2,123	0	0
2	FC	0	11,285	11,285	13,337	2,052	0	0
3	SZ	1,130	11,305	11,305	11,305	1,130	0	0
4	FC	0	29,327	29,327	33,443	4,116	0	0
5	FC	0	44,831	44,831	50,652	5,821	0	0
6	SZ	2,445	24,447	24,447	24,447	2,445	0	0
Totals		5,698	142,422	142,422	154,411	17,687	0	0

CAPACITY - ALTERNATIVE 1
BLDG G101, BASELINE

SYSTEM SUMMARY
(Design Capacity Quantities)

System Number	System Type	Cooling: Main Sys. Capacity (Tons)	Cooling: Aux. Sys. Capacity (Tons)	Cooling: Opt. Vent Capacity (Tons)	Cooling Totals (Tons)	Heating: Main Sys. Capacity (Btuh)	Heating: Aux. Sys. Capacity (Btuh)	Heating: Preheat Capacity (Btuh)	Heating: Reheat Capacity (Btuh)	Heating: Humidif. Capacity (Btuh)	Heating: Opt. Vent Capacity (Btuh)	Heating Totals (Btuh)
1	SZ	35.8	0.0	0.0	35.8	-238,028	0	0	0	0	0	-238,028
2	FC	21.5	0.0	0.0	21.5	-207,119	0	0	0	0	0	-207,119
3	SZ	20.0	0.0	0.0	20.0	-82,461	0	0	0	0	0	-82,461
4	FC	48.9	0.0	0.0	48.9	-393,153	0	0	0	0	0	-393,153
5	FC	75.8	0.0	0.0	75.8	-553,725	0	0	0	0	0	-553,725
6	SZ	41.2	0.0	0.0	41.2	-249,438	0	0	0	0	0	-249,438
Totals		243.1	0.0	0.0	243.1	-1,723,924	0	0	0	0	0	-1,723,924

The building peaked at hour 15 month 8 with a capacity of 243.0 tons

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

ENGINEERING CHECKS - ALTERNATIVE 1
BLDG G101, BASELINE

------------------------------------ E N G I N E E R I N G   C H E C K S ------------------------------------

				Cooling				Heating		
System Number	Main/ Auxiliary	System Type	Percent Outside Air	Cfm/ Sq Ft	Cfm/ Ton	Sq Ft /Ton	Btuh/ Sq Ft	Cfm/ Sq Ft	Btuh/ Sq Ft	Floor Area Sq Ft
1	Main	SZ	10.00	1.03	592.8	578.0	20.76	1.03	-11.50	20,697
2	Main	FC	0.00	1.10	525.1	477.4	25.14	1.10	-20.19	10,260
3	Main	SZ	10.00	1.08	565.1	521.6	23.00	1.08	-7.90	10,435
4	Main	FC	0.00	1.43	599.5	420.7	28.52	1.43	-19.10	20,580
5	Main	FC	0.00	1.54	591.6	384.1	31.24	1.54	-19.03	29,105
6	Main	SZ	10.00	0.84	594.0	707.2	16.97	0.84	-8.57	29,105

System 1 Peak SZ - SINGLE ZONE

************************ COOLING COIL PEAK ****************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

Peaked at Time ==> Mo/Hr: 8/15 * Mo/Hr: 6/16 * Mo/Hr: 13/ 1
Outside Air ==> OADB/WB/HR: 92/ 74/105.0 * OADB: 96 * OADB: 22

Envelope Loads	Space Sens.+Lat. (Btuh)	Ret. Air Sensible (Btuh)	Ret. Air Latent (Btuh)	Net Total (Btuh)	Percnt Of Tot (%)	Space Sensible (Btuh)	Percnt Of Tot (%)	Space Peak Space Sens (Btuh)	Coil Peak Tot Sens (Btuh)	Percnt Of Tot (%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	0	0		0	0.00	0	0.00	0	0	0.00
Glass Solar	45,752	0		45,752	10.65	50,008	16.24	0	0	0.00
Glass Cond	19,078	0		19,078	4.44	22,940	7.45	-64,372	-64,372	27.04
Wall Cond	34,427	10,006		44,433	10.34	41,008	13.32	-58,750	-75,825	31.86
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	-21,715	-21,715	9.12
Infiltration	0			0	0.00	0	0.00	0	0	0.00
Sub Total==>	99,257	10,006		109,263	25.43	113,955	37.02	-144,838	-161,912	68.02
Internal Loads										
Lights	41,297	0		41,297	9.61	41,297	13.41	0	0	0.00
People	29,700			29,700	6.91	16,500	5.36	0	0	0.00
Misc	124,182	0	0	124,182	28.90	124,182	40.34	0	0	0.00
Sub Total==>	195,179	0	0	195,179	45.42	181,979	59.11	0	0	0.00
Ceiling Load	10,006	-10,006		0	0.00	11,918	3.87	-17,075	0	0.00
Outside Air	0	0	0	87,507	20.37	0	0.00	0	-113,854	47.83
Sup. Fan Heat				37,739	8.78		0.00		37,739	-15.85
Ret. Fan Heat		0		0	0.00		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	0	0	0.00
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	0.00		0.00		0	0.00
Grand Total==>	304,442	0	0	429,688	100.00	307,853	100.00	-161,912	-238,028	100.00

---------------------------------COOLING COIL SELECTION-----------------------------------

	Total Capacity (Tons)	Total Capacity (Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Entering Deg F	Entering Grains	Leaving DB/WB/HR Deg F	Leaving Deg F	Leaving Grains
Main Clg	35.8	429.7	366.1	21,228	77.6	64.5	73.3	60.8	57.9	70.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	35.8	429.7								

-------------AREAS-------------

	Gross Total	Glass (sf)	(%)
Floor	20,697		
Part	0		
ExFlr	700		
Roof	0	0	0
Wall	7,205	1,064	15

-----------HEATING COIL SELECTION------------

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-238.0	21,228	67.0	77.5
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	21,228	67.0	60.8
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-238.0			

--------AIRFLOWS (cfm)--------

Type	Cooling	Heating
Vent	2,123	2,123
Infil	0	0
Supply	21,228	21,228
Mincfm	0	0
Return	21,228	21,228
Exhaust	2,123	2,123
Rm Exh	0	0
Auxil	0	0

--ENGINEERING CHECKS--

Clg % OA	10.0
Clg Cfm/Sqft	1.03
Clg Cfm/Ton	592.84
Clg Sqft/Ton	578.01
Clg Btuh/Sqft	20.76
No. People	66
Htg % OA	10.0
Htg Cfm/SqFt	1.03
Htg Btuh/SqFt	-11.50

--TEMPERATURES (F)---

Type	Clg	Htg
SADB	62.5	79.1
Plenum	77.5	69.4
Return	76.0	72.0
Ret/OA	77.6	67.0
Runarnd	76.0	72.0
Fn MtrTD	0.4	0.0
Fn BldTD	0.3	0.0
Fn Frict	0.9	0.0

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

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System 2 Block FC - FAN COIL

************************ COOLING COIL PEAK ******************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

	COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK		
Peaked at Time ==>	Mo/Hr: 8/15					Mo/Hr: 6/15		Mo/Hr: 13/ 1		
Outside Air ==>	OADB/WB/HR: 92/ 74/105.0					OADB: 96		OADB: 22		
	Space Sens.+Lat.	Ret. Air Sensible	Ret. Air Latent	Net Total	Percnt Of Tot	Space Sensible	Percnt Of Tot	Space Peak Space Sens	Coil Peak Tot Sens	Percnt Of Tot
Envelope Loads	(Btuh)	(Btuh)	(Btuh)	(Btuh)	(%)	(Btuh)	(%)	(Btuh)	(Btuh)	(%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	0	0		0	0.00	0	0.00	0	0	0.00
Glass Solar	39,480	0		39,480	15.31	36,120	17.38	0	0	0.00
Glass Cond	15,061	0		15,061	5.84	18,665	8.98	-50,820	-50,820	24.54
Wall Cond	18,185	5,892		24,077	9.34	18,973	9.13	-28,150	-37,270	17.99
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	-11,982	-11,982	5.78
Infiltration	84,589			84,589	32.80	44,463	21.39	-110,057	-110,057	53.14
Sub Total==>	157,315	5,892		163,207	63.29	118,221	56.88	-201,008	-210,129	101.45
Internal Loads										
Lights	43,686	0		43,686	16.94	43,686	21.02	0	0	0.00
People	16,200			16,200	6.28	9,000	4.33	0	0	0.00
Misc	30,780	0	0	30,780	11.94	30,780	14.81	0	0	0.00
Sub Total==>	90,666	0	0	90,666	35.16	83,466	40.16	0	0	0.00
Ceiling Load	5,892	-5,892		0	0.00	6,147	2.96	-9,120	0	0.00
Outside Air	0	0	0	0	0.00	0	0.00	0	0	0.00
Sup. Fan Heat				3,009	1.17		0.00		3,009	-1.45
Ret. Fan Heat		1,003		1,003	0.39		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	0	0	0.00
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	-0.00		0.00		0	0.00
Grand Total==>	253,873	1,003	0	257,885	100.00	207,834	100.00	-210,129	-207,119	100

-----------------------------------COOLING COIL SELECTION-----------------------------------

	Total Capacity (Tons)	(Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Deg F	Grains	Leaving DB/WB/HR Deg F	Deg F	Grains
Main Clg	21.5	257.9	202.0	11,285	76.1	63.2	69.8	58.6	55.6	63.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	21.5	257.9								

--------------AREAS--------------

	Gross Total	Glass (sf)	(%)
Floor	10,260		
Part	0		
ExFlr	387		
Roof	0	0	0
Wall	3,865	840	22

-----------HEATING COIL SELECTION-----------

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-207.1	11,285	72.2	89.4
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	11,285	72.2	58.8
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-207.1			

--------AIRFLOWS (cfm)--------

Type	Cooling	Heating
Vent	0	0
Infil	2,052	2,052
Supply	11,285	11,285
Mincfm	0	0
Return	11,285	11,285
Exhaust	0	0
Rm Exh	0	0
Auxil	0	0

--ENGINEERING CHECKS--

Clg % OA	0.0
Clg Cfm/Sqft	1.10
Clg Cfm/Ton	525.12
Clg Sqft/Ton	477.42
Clg Btuh/Sqft	25.14
No. People	36
Htg % OA	0.0
Htg Cfm/SqFt	1.10
Htg Btuh/SqFt	-20.19

--TEMPERATURES (F)---

Type	Clg	Htg
SADB	58.8	89.4
Plenum	77.8	69.2
Return	76.0	72.0
Ret/OA	76.0	72.0
Runarnd	76.0	72.0
Fn MtrTD	0.1	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

System 3 Peak SZ - SINGLE ZONE

************************* COOLING COIL PEAK ******************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

	COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK		
Peaked at Time ==>	Mo/Hr: 8/15					Mo/Hr: 6/16			Mo/Hr: 13/ 1	
Outside Air ==>	OADB/WB/HR: 92/ 74/105.0					OADB: 96			OADB: 22	
Envelope Loads	Space Sens.+Lat. (Btuh)	Ret. Air Sensible (Btuh)	Ret. Air Latent (Btuh)	Net Total (Btuh)	Percnt Of Tot (%)	Space Sensible (Btuh)	Percnt Of Tot (%)	Space Peak Space Sens (Btuh)	Coil Peak Tot Sens (Btuh)	Percnt Of Tot (%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	0	0		0	0.00	0	0.00	0	0	0.00
Glass Solar	2,800	0		2,800	1.17	2,520	1.51	0	0	0.00
Glass Cond	2,510	0		2,510	1.05	3,018	1.81	-8,470	-8,470	10.27
Wall Cond	16,683	4,262		20,944	8.73	18,762	11.22	-26,650	-33,458	40.57
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	0	0	0.00
Infiltration	0			0	0.00	0	0.00	0	0	0.00
Sub Total==>	21,993	4,262		26,255	10.94	24,300	14.53	-35,120	-41,928	50.85
Internal Loads										
Lights	64,233	0		64,233	26.76	64,233	38.42	0	0	0.00
People	20,250			20,250	8.44	11,250	6.73	0	0	0.00
Misc	62,608	0	0	62,608	26.08	62,608	37.45	0	0	0.00
Sub Total==>	147,090	0	0	147,090	61.28	138,090	82.60	0	0	0.00
Ceiling Load	4,262	-4,262		0	0.00	4,793	2.87	-6,808	0	0.00
Outside Air	0	0	0	46,600	19.41	0	0.00	0	-60,631	73.53
Sup. Fan Heat				20,097	8.37		0.00		20,097	-24.37
Ret. Fan Heat		0		0	0.00		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	0	0	0.00
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	0.00		0.00		0	0.00
Grand Total==>	173,345	0	0	240,042	100.00	167,183	100.00	-41,928	-82,461	100.00

-----------------------------------COOLING COIL SELECTION----------------------------------- --------------AREAS--------------

	Total Capacity (Tons)	Total Capacity (Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Entering Deg F	Entering Grains	Leaving DB/WB/HR Deg F	Leaving Deg F	Leaving Grains
Main Clg	20.0	240.0	204.2	11,305	77.6	64.5	73.3	60.6	57.6	69.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	20.0	240.0								

	Gross Total	Glass (sf)	(%)
Floor	10,435		
Part	0		
ExFlr	0		
Roof	0	0	0
Wall	2,840	140	5

-----------HEATING COIL SELECTION------------

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-82.5	11,305	67.0	73.8
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	11,305	67.0	60.6
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-82.5			

--------AIRFLOWS (cfm)--------

Type	Cooling	Heating
Vent	1,130	1,130
Infil	0	0
Supply	11,305	11,305
Mincfm	0	0
Return	11,305	11,305
Exhaust	1,130	1,130
Rm Exh	0	0
Auxil	0	0

--ENGINEERING CHECKS--

Clg % OA	10.0
Clg Cfm/Sqft	1.08
Clg Cfm/Ton	565.13
Clg Sqft/Ton	521.64
Clg Btuh/Sqft	23.00
No. People	45
Htg % OA	10.0
Htg Cfm/SqFt	1.08
Htg Btuh/SqFt	-7.90

--TEMPERATURES (F)---

Type	Clg	Htg
SADB	62.2	75.5
Plenum	77.3	69.9
Return	76.0	72.0
Ret/OA	77.6	67.0
Runarnd	76.0	72.0
Fn MtrTD	0.4	0.0
Fn BldTD	0.3	0.0
Fn Frict	0.9	0.0

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

System 4 Block FC - FAN COIL

************************* COOLING COIL PEAK ******************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

Peaked at Time ==>		Mo/Hr:	8/15			Mo/Hr:	6/16		Mo/Hr: 13/ 1	
Outside Air ==>		OADB/WB/HR:	92/ 74/105.0			OADB:	96		OADB: 22	

Envelope Loads	Space Sens.+Lat. (Btuh)	Ret. Air Sensible (Btuh)	Ret. Air Latent (Btuh)	Net Total (Btuh)	Percnt Of Tot (%)	Space Sensible (Btuh)	Percnt Of Tot (%)	Space Peak Space Sens (Btuh)	Coil Peak Tot Sens (Btuh)	Percnt Of Tot (%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	0	0		0	0.00	0	0.00	0	0	0.00
Glass Solar	93,492	0		93,492	15.93	88,200	18.12	0	0	0.00
Glass Cond	31,629	0		31,629	5.39	38,032	7.82	-106,722	-106,722	27.15
Wall Cond	33,260	10,983		44,243	7.54	39,338	8.08	-55,250	-73,494	18.69
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	0	0	0.00
Infiltration	169,672			169,672	28.91	86,537	17.78	-220,757	-220,757	56.15
Sub Total==>	328,053	10,983		339,036	57.76	252,107	51.81	-382,729	-400,973	101.99
Internal Loads										
Lights	119,216	0		119,216	20.31	119,216	24.50	0	0	0.00
People	36,000			36,000	6.13	20,000	4.11	0	0	0.00
Misc	82,320	0	0	82,320	14.02	82,320	16.92	0	0	0.00
Sub Total==>	237,536	0	0	237,536	40.47	221,536	45.52	0	0	0.00
Ceiling Load	10,983	-10,983		0	0.00	12,989	2.67	-18,244	0	0.00
Outside Air	0	0	0	0	0.00	0	0.00	0	0	0.00
Sup. Fan Heat				7,820	1.33		0.00		7,820	-1.99
Ret. Fan Heat		2,607		2,607	0.44		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	0	0	0.00
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	-0.00		0.00		0	0.00
Grand Total==>	576,572	2,607	0	586,999	100.00	486,632	100.00	-400,973	-393,153	10

-----------------------------------COOLING COIL SELECTION----------------------------------- --------------AREAS--------------

	Total Capacity (Tons)	(Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Deg F	Grains	Leaving DB/WB/HR Deg F	Deg F	Grains
Main Clg	48.9	587.0	473.3	29,327	76.1	63.2	69.8	60.3	56.6	65.2
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	48.9	587.0								

	Gross Total	Glass (sf)	(%)
Floor	20,580		
Part	0		
ExFlr	0		
Roof	0	0	0
Wall	7,730	1,764	23

------------HEATING COIL SELECTION-------------

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-393.2	29,327	72.2	84.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	29,327	72.2	60.5
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-393.2			

--------AIRFLOWS (cfm)--------

Type	Cooling	Heating
Vent	0	0
Infil	4,116	4,116
Supply	29,327	29,327
Mincfm	0	0
Return	29,327	29,327
Exhaust	0	0
Rm Exh	0	0
Auxil	0	0

--ENGINEERING CHECKS--

Clg % OA	0.0
Clg Cfm/Sqft	1.43
Clg Cfm/Ton	599.52
Clg Sqft/Ton	420.72
Clg Btuh/Sqft	28.52
No. People	80
Htg % OA	0.0
Htg Cfm/SqFt	1.43
Htg Btuh/SqFt	-19.10

--TEMPERATURES (F)---

Type	Clg	Htg
SADB	60.5	84.7
Plenum	77.7	69.2
Return	76.0	72.0
Ret/OA	76.0	72.0
Runarnd	76.0	72.0
Fn MtrTD	0.1	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

System 5 Block FC - FAN COIL

************************* COOLING COIL PEAK ******************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

Peaked at Time ==>		Mo/Hr: 8/15				Mo/Hr: 6/16			Mo/Hr: 13/ 1	
Outside Air ==>		OADB/WB/HR: 92/ 74/105.0				OADB: 96			OADB: 22	

Envelope Loads	Space Sens.+Lat. (Btuh)	Ret. Air Sensible (Btuh)	Ret. Air Latent (Btuh)	Net Total (Btuh)	Percnt Of Tot (%)	Space Sensible (Btuh)	Percnt Of Tot (%)	Space Peak Space Sens (Btuh)	Coil Peak Tot Sens (Btuh)	Percnt Of Tot (%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	0	0		0	0.00	0	0.00	0	0	0.00
Glass Solar	146,300	0		146,300	16.09	146,300	19.33	0	0	0.00
Glass Cond	47,694	0		47,694	5.25	57,350	7.58	-160,930	-160,930	29.06
Wall Cond	41,481	14,602		56,083	6.17	48,736	6.44	-68,450	-92,546	16.71
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	0	0	0.00
Infiltration	239,957			239,957	26.39	122,384	16.17	-312,203	-312,203	56.38
Sub Total==>	475,431	14,602		490,033	53.89	374,770	49.52	-541,583	-565,680	102.16
Internal Loads										
Lights	200,480	0		200,480	22.05	200,480	26.49	0	0	0.00
People	86,400			86,400	9.50	48,000	6.34	0	0	0.00
Misc	116,420	0	0	116,420	12.80	116,420	15.38	0	0	0.00
Sub Total==>	403,300	0	0	403,300	44.35	364,900	48.21	0	0	0.00
Ceiling Load	14,602	-14,602		0	0.00	17,157	2.27	-24,096	0	0.00
Outside Air	0	0	0	0	0.00	0	0.00	0	0	0.00
Sup. Fan Heat				11,955	1.31		0.00		11,955	-2.16
Ret. Fan Heat		3,985		3,985	0.44		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	0	0	0.00
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	-0.00		0.00		0	0.00
Grand Total==>	893,333	3,985	0	909,273	100.00	756,826	100.00	-565,680	-553,725	100.00

-----COOLING COIL SELECTION-----

	Total Capacity (Tons)	(Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Deg F	Grains	Leaving DB/WB/HR Deg F	Deg F	Grains
Main Clg	75.8	909.3	732.7	44,831	76.1	63.2	69.8	60.1	56.5	65.2
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
0										
Totals	75.8	909.3								

-----AREAS-----

	Gross Total	Glass (sf)	(%)
Floor	29,105		
Part	0		
ExFlr	0		
Roof	0		0
Wall	10,170	2,660	26

-----HEATING COIL SELECTION-----

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-553.7	44,831	72.2	83.8
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	44,831	72.2	60.3
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-553.7			

--------AIRFLOWS (cfm)--------

Type	Cooling	Heating
Vent	0	0
Infil	5,821	5,821
Supply	44,831	44,831
Mincfm	0	0
Return	44,831	44,831
Exhaust	0	0
Rm Exh	0	0
Auxil	0	0

--ENGINEERING CHECKS--

Clg % OA	0.0
Clg Cfm/Sqft	1.54
Clg Cfm/Ton	591.65
Clg Sqft/Ton	384.11
Clg Btuh/Sqft	31.24
No. People	192
Htg % OA	0.0
Htg Cfm/SqFt	1.54
Htg Btuh/SqFt	-19.03

--TEMPERATURES (F)---

Type	Clg	Htg
SADB	60.3	83.8
Plenum	77.6	69.4
Return	76.0	72.0
Ret/OA	76.0	72.0
Runarnd	76.0	72.0
Fn MtrTD	0.1	0.0
Fn BldTD	0.1	0.0
Fn Frict	0.2	0.0

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

System 6 Peak SZ - SINGLE ZONE

************************* COOLING COIL PEAK ******************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

Peaked at Time ==>		Mo/Hr: 7/15				Mo/Hr: 6/16			Mo/Hr: 13/ 1	
Outside Air ==>		OADB/WB/HR: 92/ 74/105.0				OADB: 96			OADB: 22	

Envelope Loads	Space Sens.+Lat. (Btuh)	Ret. Air Sensible (Btuh)	Ret. Air Latent (Btuh)	Net Total (Btuh)	Percnt Of Tot (%)	Space Sensible (Btuh)	Percnt Of Tot (%)	Space Peak Space Sens (Btuh)	Coil Peak Tot Sens (Btuh)	Percnt Of Tot (%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	0	57,062		57,062	11.55	0	0.00	0	-37,969	15.22
Glass Solar	0	0		0	0.00	0	0.00	0	0	0.00
Glass Cond	0	0		0	0.00	0	0.00	0	0	0.00
Wall Cond	61,630	11,620		73,251	14.83	72,410	20.41	-101,700	-123,812	49.64
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	0	0	0.00
Infiltration	0			0	0.00	0	0.00	0	0	0.00
Sub Total==>	61,630	68,683		130,313	26.39	72,410	20.41	-101,700	-161,781	64.86
Internal Loads										
Lights	98,124	0		98,124	19.87	98,124	27.66	0	0	0.00
People	34,650			34,650	7.02	19,250	5.43	0	0	0.00
Misc	87,315	0	0	87,315	17.68	87,315	24.61	0	0	0.00
Sub Total==>	220,089	0	0	220,089	44.57	204,689	57.69	0	0	0.00
Ceiling Load	68,683	-68,683		0	0.00	77,709	21.90	-60,081	0	0.00
Outside Air	0	0	0	99,989	20.25	0	0.00	0	-131,118	52.57
Sup. Fan Heat				43,461	8.80		0.00		43,461	-17.42
Ret. Fan Heat		0		0	0.00		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	0	0	0.00
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	0.00		0.00		0	0.00
Grand Total==>	350,402	0	0	493,852	100.00	354,808	100.00	-161,781	-249,438	1

-----------------------------------COOLING COIL SELECTION----------------------------------- --------------AREAS--------------

	Total Capacity (Tons)	(Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Deg F	Grains	Leaving DB/WB/HR Deg F	Deg F	Grains
Main Clg	41.2	493.9	420.4	24,447	77.6	64.5	73.3	60.8	57.9	70.1
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	41.2	493.9								

Gross Total		Glass (sf)	(%)
Floor	29,105		
Part	0		
ExFlr	0		
Roof	29,105	0	0
Wall	10,170	0	0

------------HEATING COIL SELECTION------------

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-249.4	24,447	67.0	76.5
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	24,447	67.0	60.8
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-249.4			

--------AIRFLOWS (cfm)--------

Type	Cooling	Heating
Vent	2,445	2,445
Infil	0	0
Supply	24,447	24,447
Mincfm	0	0
Return	24,447	24,447
Exhaust	2,445	2,445
Rm Exh	0	0
Auxil	0	0

--ENGINEERING CHECKS--

Clg % OA	10.0
Clg Cfm/Sqft	0.84
Clg Cfm/Ton	594.03
Clg Sqft/Ton	707.22
Clg Btuh/Sqft	16.97
No. People	77
Htg % OA	10.0
Htg Cfm/SqFt	0.84
Htg Btuh/SqFt	-8.57

--TEMPERATURES (F)---

Type	Clg	Htg
SADB	62.5	78.2
Plenum	83.4	65.5
Return	76.0	72.0
Ret/OA	77.6	67.0
Runarnd	76.0	72.0
Fn MtrTD	0.4	0.0
Fn BldTD	0.3	0.0
Fn Frict	0.9	0.0

MAIN SYSTEM COOLING - ALTERNATIVE 1
BLDG G101, BASELINE

PEAK COOLING LOADS
(Main System)

Room Number	Description	Space: Peak Time Mo/Hr	Space: OA Cond. DB/WB (F)		Space: Rm Dry Blb (F)	Space: Supp. Dry Bulb (F)	Space Air Flow (Cfm)	Space Sens. Load (Btuh)	Space Lat. Load (Btuh)	Coil: Peak Time Mo/Hr	Coil: OA Cond. DB/WB (F)		Coil: Rm Dry Blb (F)	Coil: Supp. Dry Bulb (F)	Coil Air Flow (Cfm)	Coil Sens. Load (Btuh)	Coil Lat. Load (Btuh)
1	1ST FL AHU	6/16	96	72	76	62.5	21,228	307,853	13,200	8/15	92	74	76	63.2	21,228	366,097	63,591
Zone	1 Total/Ave.		96	72	76	62.5	21,228	307,853	13,200		92	74	76	63.2	21,228	366,097	63,591
Zone	1 Block	6/16	96	72	76	62.5	21,228	307,853	13,200	8/15	92	74	76	63.2	21,228	366,097	63,591
System	1 Total/Ave.		96	72	76	62.5	21,228	307,853	13,200		92	74	76	63.2	21,228	366,097	63,591
System	1 Block	6/16	96	72	76	62.5	21,228	307,853	13,200	8/15	92	74	76	63.2	21,228	366,097	63,591
2	1ST FL FC	6/15	96	73	76	58.8	11,285	207,834	36,532	8/15	92	74	76	59.6	11,285	201,975	55,910
Zone	2 Total/Ave.		96	73	76	58.8	11,285	207,834	36,532		92	74	76	59.6	11,285	201,975	55,910
Zone	2 Block	6/15	96	73	76	58.8	11,285	207,834	36,532	8/15	92	74	76	59.6	11,285	201,975	55,910
System	2 Total/Ave.		96	73	76	58.8	11,285	207,834	36,532		92	74	76	59.6	11,285	201,975	55,910
System	2 Block	6/15	96	73	76	58.8	11,285	207,834	36,532	8/15	92	74	76	59.6	11,285	201,975	55,910
3	2ND FL AHU	6/16	96	72	76	62.2	11,305	167,183	9,000	8/15	92	74	76	62.4	11,305	204,208	35,835
Zone	3 Total/Ave.		96	72	76	62.2	11,305	167,183	9,000		92	74	76	62.4	11,305	204,208	35,835
Zone	3 Block	6/16	96	72	76	62.2	11,305	167,183	9,000	8/15	92	74	76	62.4	11,305	204,208	35,835
System	3 Total/Ave.		96	72	76	62.2	11,305	167,183	9,000		92	74	76	62.4	11,305	204,208	35,835
System	3 Block	6/16	96	72	76	62.2	11,305	167,183	9,000	8/15	92	74	76	62.4	11,305	204,208	35,835
4	2ND FL FC	6/16	96	72	76	60.5	29,327	486,632	55,400	8/15	92	74	76	61.3	29,327	473,294	113,705
Zone	4 Total/Ave.		96	72	76	60.5	29,327	486,632	55,400		92	74	76	61.3	29,327	473,294	113,705
Zone	4 Block	6/16	96	72	76	60.5	29,327	486,632	55,400	8/15	92	74	76	61.3	29,327	473,294	113,705
System	4 Total/Ave.		96	72	76	60.5	29,327	486,632	55,400		92	74	76	61.3	29,327	473,294	113,705
System	4 Block	6/16	96	72	76	60.5	29,327	486,632	55,400	8/15	92	74	76	61.3	29,327	473,294	113,705
5	3RD FL FC	6/16	96	72	76	60.3	44,831	756,826	94,121	8/15	92	74	76	61.1	44,831	732,695	176,578
Zone	5 Total/Ave.		96	72	76	60.3	44,831	756,826	94,121		92	74	76	61.1	44,831	732,695	176,578
Zone	5 Block	6/16	96	72	76	60.3	44,831	756,826	94,121	8/15	92	74	76	61.1	44,831	732,695	176,578
System	5 Total/Ave.		96	72	76	60.3	44,831	756,826	94,121		92	74	76	61.1	44,831	732,695	176,578
System	5 Block	6/16	96	72	76	60.3	44,831	756,826	94,121	8/15	92	74	76	61.1	44,831	732,695	176,578
6	4TH FL AHU	6/16	96	72	76	62.5	24,447	354,808	15,400	7/15	92	74	76	63.2	24,447	420,420	73,431
Zone	6 Total/Ave.		96	72	76	62.5	24,447	354,808	15,400		92	74	76	63.2	24,447	420,420	73,431
Zone	6 Block	6/16	96	72	76	62.5	24,447	354,808	15,400	7/15	92	74	76	63.2	24,447	420,420	73,431
System	6 Total/Ave.		96	72	76	62.5	24,447	354,808	15,400		92	74	76	63.2	24,447	420,420	73,431
System	6 Block	6/16	96	72	76	62.5	24,447	354,808	15,400	7/15	92	74	76	63.2	24,447	420,420	73,431

COOLING LOADS AT COIL PEAK - ALTERNATIVE 1
BLDG G101, BASELINE

A I R F L O W   C O O L I N G   L O A D S
(At time of Coil Peak)

		Ventilation			Optional Ventilation			Bypass			
Room Number	Description	Airflow (Cfm)	Sensible (Btuh)	Latent (Btuh)	Airflow (Cfm)	Sensible (Btuh)	Latent (Btuh)	Airflow (Cfm)	Sensible (Btuh)	Latent (Btuh)	Ov/Undr Sizing (Btuh)
1	1ST FL AHU	2,123	37,116	50,391	0	0	0	0	0	0	0
Zone	1 Total/Ave.	2,123	37,116	50,391	0	0	0	0	0	0	0
Zone	1 Block	2,123	37,116	50,391	0	0	0	0	0	0	0
System	1 Total/Ave.	2,123	37,116	50,391	0	0	0	0	0	0	0
System	1 Block	2,123	37,116	50,391	0	0	0	0	0	0	0
2	1ST FL FC	0	0	0	0	0	0	0	0	0	0
Zone	2 Total/Ave.	0	0	0	0	0	0	0	0	0	0
Zone	2 Block	0	0	0	0	0	0	0	0	0	0
System	2 Total/Ave.	0	0	0	0	0	0	0	0	0	0
System	2 Block	0	0	0	0	0	0	0	0	0	0
3	2ND FL AHU	1,130	19,766	26,835	0	0	0	0	0	0	0
Zone	3 Total/Ave.	1,130	19,766	26,835	0	0	0	0	0	0	0
Zone	3 Block	1,130	19,766	26,835	0	0	0	0	0	0	0
System	3 Total/Ave.	1,130	19,766	26,835	0	0	0	0	0	0	0
System	3 Block	1,130	19,766	26,835	0	0	0	0	0	0	0
4	2ND FL FC	0	0	0	0	0	0	0	0	0	0
Zone	4 Total/Ave.	0	0	0	0	0	0	0	0	0	0
Zone	4 Block	0	0	0	0	0	0	0	0	0	0
System	4 Total/Ave.	0	0	0	0	0	0	0	0	0	0
System	4 Block	0	0	0	0	0	0	0	0	0	0
5	3RD FL FC	0	0	0	0	0	0	0	0	0	0
Zone	5 Total/Ave.	0	0	0	0	0	0	0	0	0	[illegible]
Zone	5 Block	0	0	0	0	0	0	0	0	0	0
System	5 Total/Ave.	0	0	0	0	0	0	0	0	0	0
System	5 Block	0	0	0	0	0	0	0	0	0	0
6	4TH FL AHU	2,445	41,958	58,031	0	0	0	0	0	0	0
Zone	6 Total/Ave.	2,445	41,958	58,031	0	0	0	0	0	0	0
Zone	6 Block	2,445	41,958	58,031	0	0	0	0	0	0	0
System	6 Total/Ave.	2,445	41,958	58,031	0	0	0	0	0	0	0
System	6 Block	2,445	41,958	58,031	0	0	0	0	0	0	0

HEATING LOADS AT COIL PEAK - ALTERNATIVE 1
BLDG G101, BASELINE

---------------------------------- A I R F L O W   H E A T I N G   L O A D S ----------------------------------
(At time of Coil Peak)

		Ventilation		Op. Vent.		Reheat		Humidif.		
Room Number	Description	Airflow (Cfm)	Sensible (Btuh)	Airflow (Cfm)	Sensible (Btuh)	Airflow (Cfm)	Sensible (Btuh)	Airflow (Cfm)	Latent (Btuh)	Total (Btuh)
1	1ST FL AHU	2,123	-113,854	0	0	0	0	0	0	-113,854
Zone	1 Total/Ave.	2,123	-113,854	0	0	0	0	0	0	-113,854
Zone	1 Block	2,123	-113,854	0	0	0	0	0	0	-113,854
System	1 Total/Ave.	2,123	-113,854	0	0	0	0	0	0	-113,854
System	1 Block	2,123	-113,854	0	0	0	0	0	0	-113,854
2	1ST FL FC	0	0	0	0	0	0	0	0	0
Zone	2 Total/Ave.	0	0	0	0	0	0	0	0	0
Zone	2 Block	0	0	0	0	0	0	0	0	0
System	2 Total/Ave.	0	0	0	0	0	0	0	0	0
System	2 Block	0	0	0	0	0	0	0	0	0
3	2ND FL AHU	1,130	-60,631	0	0	0	0	0	0	-60,631
Zone	3 Total/Ave.	1,130	-60,631	0	0	0	0	0	0	-60,631
Zone	3 Block	1,130	-60,631	0	0	0	0	0	0	-60,631
System	3 Total/Ave.	1,130	-60,631	0	0	0	0	0	0	-60,631
System	3 Block	1,130	-60,631	0	0	0	0	0	0	-60,631
4	2ND FL FC	0	0	0	0	0	0	0	0	0
Zone	4 Total/Ave.	0	0	0	0	0	0	0	0	0
Zone	4 Block	0	0	0	0	0	0	0	0	0
System	4 Total/Ave.	0	0	0	0	0	0	0	0	0
System	4 Block	0	0	0	0	0	0	0	0	0
5	3RD FL FC	0	0	0	0	0	0	0	0	0
Zone	5 Total/Ave.	0	0	0	0	0	0	0	0	0
Zone	5 Block	0	0	0	0	0	0	0	0	0
System	5 Total/Ave.	0	0	0	0	0	0	0	0	0
System	5 Block	0	0	0	0	0	0	0	0	0
6	4TH FL AHU	2,445	-131,118	0	0	0	0	0	0	-131,118
Zone	6 Total/Ave.	2,445	-131,118	0	0	0	0	0	0	-131,118
Zone	6 Block	2,445	-131,118	0	0	0	0	0	0	-131,118
System	6 Total/Ave.	2,445	-131,118	0	0	0	0	0	0	-131,118
System	6 Block	2,445	-131,118	0	0	0	0	0	0	-131,118

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

MAIN SYSTEM HEATING - ALTERNATIVE 1
BLDG G101, BASELINE

P E A K H E A T I N G L O A D S
(Main System)

			Space							Coil						
Room Number	Description	Floor Area (Sq Ft)	Peak Time Mo/Hr	OA Cond. DB/WB (F)		Rm Dry Blb (F)	Supp. Dry Bulb (F)	Space Air Flow (Cfm)	Space Sens. Load (Btuh)	Peak Time Mo/Hr	OA Cond. DB/WB (F)		Rm Dry Blb (F)	Supp. Dry Bulb (F)	Coil Air Flow (Cfm)	Coil Sens. Load (Btuh)
1	1ST FL AHU	20,697	13/ 1	22	18	72	79.1	21,228	-161,912	13/ 1	22	18	72	79.1	21,228	-238,028
Zone	1 Total/Ave.	20,697		22	18	72	79.1	21,228	-161,912		22	18	72	79.1	21,228	-23[illegible]
Zone	1 Block	20,697	13/ 1	22	18	72	79.1	21,228	-161,912	13/ 1	22	18	72	79.1	21,228	-2[illegible]
System	1 Total/Ave.	20,697		22	18	72	79.1	21,228	-161,912		22	18	72	79.1	21,228	-238,[illegible]
System	1 Block	20,697	13/ 1	22	18	72	79.1	21,228	-161,912	13/ 1	22	18	72	79.1	21,228	-238,028
2	1ST FL FC	10,260	13/ 1	22	18	72	89.4	11,285	-210,129	13/ 1	22	18	72	89.4	11,285	-207,119
Zone	2 Total/Ave.	10,260		22	18	72	89.4	11,285	-210,129		22	18	72	89.4	11,285	-207,119
Zone	2 Block	10,260	13/ 1	22	18	72	89.4	11,285	-210,129	13/ 1	22	18	72	89.4	11,285	-207,119
System	2 Total/Ave.	10,260		22	18	72	89.4	11,285	-210,129		22	18	72	89.4	11,285	-207,119
System	2 Block	10,260	13/ 1	22	18	72	89.4	11,285	-210,129	13/ 1	22	18	72	89.4	11,285	-207,119
3	2ND FL AHU	10,435	13/ 1	22	18	72	75.5	11,305	-41,928	13/ 1	22	18	72	75.5	11,305	-82,461
Zone	3 Total/Ave.	10,435		22	18	72	75.5	11,305	-41,928		22	18	72	75.5	11,305	-82,461
Zone	3 Block	10,435	13/ 1	22	18	72	75.5	11,305	-41,928	13/ 1	22	18	72	75.5	11,305	-82,461
System	3 Total/Ave.	10,435		22	18	72	75.5	11,305	-41,928		22	18	72	75.5	11,305	-82,461
System	3 Block	10,435	13/ 1	22	18	72	75.5	11,305	-41,928	13/ 1	22	18	72	75.5	11,305	-82,461
4	2ND FL FC	20,580	13/ 1	22	18	72	84.7	29,327	-400,973	13/ 1	22	18	72	84.7	29,327	-393,153
Zone	4 Total/Ave.	20,580		22	18	72	84.7	29,327	-400,973		22	18	72	84.7	29,327	-393,153
Zone	4 Block	20,580	13/ 1	22	18	72	84.7	29,327	-400,973	13/ 1	22	18	72	84.7	29,327	-393,153
System	4 Total/Ave.	20,580		22	18	72	84.7	29,327	-400,973		22	18	72	84.7	29,327	-393,153
System	4 Block	20,580	13/ 1	22	18	72	84.7	29,327	-400,973	13/ 1	22	18	72	84.7	29,327	-393,153
5	3RD FL FC	29,105	13/ 1	22	18	72	83.8	44,831	-565,680	13/ 1	22	18	72	83.8	44,831	-553[illegible]
Zone	5 Total/Ave.	29,105		22	18	72	83.8	44,831	-565,680		22	18	72	83.8	44,831	-553[illegible]
Zone	5 Block	29,105	13/ 1	22	18	72	83.8	44,831	-565,680	13/ 1	22	18	72	83.8	44,831	-553,725
System	5 Total/Ave.	29,105		22	18	72	83.8	44,831	-565,680		22	18	72	83.8	44,831	-553,725
System	5 Block	29,105	13/ 1	22	18	72	83.8	44,831	-565,680	13/ 1	22	18	72	83.8	44,831	-553,725
6	4TH FL AHU	29,105	13/ 1	22	18	72	78.2	24,447	-161,781	13/ 1	22	18	72	78.2	24,447	-249,438
Zone	6 Total/Ave.	29,105		22	18	72	78.2	24,447	-161,781		22	18	72	78.2	24,447	-249,438
Zone	6 Block	29,105	13/ 1	22	18	72	78.2	24,447	-161,781	13/ 1	22	18	72	78.2	24,447	-249,438
System	6 Total/Ave.	29,105		22	18	72	78.2	24,447	-161,781		22	18	72	78.2	24,447	-249,438
System	6 Block	29,105	13/ 1	22	18	72	78.2	24,447	-161,781	13/ 1	22	18	72	78.2	24,447	-249,438

COOLING AIRFLOW HEAT GAIN/LOSS - ALTERNATIVE 1
BLDG G101, BASELINE

AIRFLOW HEAT GAIN AND LOSS
(At time of Coil Peak)

		Cooling											
Room Number	Description	Duct Heat Pickup (Btuh)	Supply Fan Heat (Btuh)	Return Fan Heat (Btuh)	System Exhaust Heat Loss (Btuh)	Total (Btuh)	System Exhaust Airflow (Cfm)	Room Exhaust Airflow (Cfm)	Ducted Airflow (Cfm)	Plenum Airflow (Cfm)	Run Around Airflow (Cfm)	Corridr Airflow (Cfm)	System Return Airflow (Cfm)
1	1ST FL AHU	0	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
Zone 1	Total/Ave.	0	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
Zone 1	Block	0	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
System 1	Total/Ave.	0	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
System 1	Block	0	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
2	1ST FL FC	0	3,009	1,003	0	4,012	0	0	0	0	0	0	11,285
Zone 2	Total/Ave.	0	3,009	1,003	0	4,012	0	0	0	0	0	0	11,285
Zone 2	Block	0	3,009	1,003	0	4,012	0	0	0	0	0	0	11,285
System 2	Total/Ave.	0	3,009	1,003	0	4,012	0	0	0	0	0	0	11,285
System 2	Block	0	3,009	1,003	0	4,012	0	0	0	0	0	0	11,285
3	2ND FL AHU	0	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
Zone 3	Total/Ave.	0	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
Zone 3	Block	0	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
System 3	Total/Ave.	0	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
System 3	Block	0	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
4	2ND FL FC	0	7,820	2,607	0	10,427	0	0	0	0	0	0	29,327
Zone 4	Total/Ave.	0	7,820	2,607	0	10,427	0	0	0	0	0	0	29,327
Zone 4	Block	0	7,820	2,607	0	10,427	0	0	0	0	0	0	29,327
System 4	Total/Ave.	0	7,820	2,607	0	10,427	0	0	0	0	0	0	29,327
System 4	Block	0	7,820	2,607	0	10,427	0	0	0	0	0	0	29,327
5	3RD FL FC	0	11,955	3,985	0	15,940	0	0	0	0	0	0	44,831
Zone 5	Total/Ave.	0	11,955	3,985	0	15,940	0	0	0	0	0	0	44,831
Zone 5	Block	0	11,955	3,985	0	15,940	0	0	0	0	0	0	44,831
System 5	Total/Ave.	0	11,955	3,985	0	15,940	0	0	0	0	0	0	44,831
System 5	Block	0	11,955	3,985	0	15,940	0	0	0	0	0	0	44,831
6	4TH FL AHU	0	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
Zone 6	Total/Ave.	0	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
Zone 6	Block	0	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
System 6	Total/Ave.	0	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
System 6	Block	0	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447

HEATING AIRFLOW HEAT GAIN/LOSS - ALTERNATIVE 1
BLDG G101, BASELINE

AIRFLOW HEAT GAIN AND LOSS
(At time of Coil Peak)

Room Number	Description	Heating: Supply Fan Heat (Btuh)	Return Fan Heat (Btuh)	System Exhaust Heat Loss (Btuh)	Total (Btuh)	System Exhaust Airflow (Cfm)	Room Exhaust Airflow (Cfm)	Ducted Airflow (Cfm)	Plenum Airflow (Cfm)	Run Around Airflow (Cfm)	Corridr Airflow (Cfm)	System Return Airflow (Cfm)
1	1ST FL AHU	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
Zone	1 Total/Ave.	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
Zone	1 Block	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
System	1 Total/Ave.	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
System	1 Block	37,739	0	0	37,739	2,123	0	21,228	0	0	0	21,228
2	1ST FL FC	3,009	0	0	3,009	0	0	0	0	0	0	11,285
Zone	2 Total/Ave.	3,009	0	0	3,009	0	0	0	0	0	0	11,285
Zone	2 Block	3,009	0	0	3,009	0	0	0	0	0	0	11,285
System	2 Total/Ave.	3,009	0	0	3,009	0	0	0	0	0	0	11,285
System	2 Block	3,009	0	0	3,009	0	0	0	0	0	0	11,285
3	2ND FL AHU	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
Zone	3 Total/Ave.	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
Zone	3 Block	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
System	3 Total/Ave.	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
System	3 Block	20,097	0	0	20,097	1,130	0	11,305	0	0	0	11,305
4	2ND FL FC	7,820	0	0	7,820	0	0	0	0	0	0	29,327
Zone	4 Total/Ave.	7,820	0	0	7,820	0	0	0	0	0	0	29,327
Zone	4 Block	7,820	0	0	7,820	0	0	0	0	0	0	29,327
System	4 Total/Ave.	7,820	0	0	7,820	0	0	0	0	0	0	29,327
System	4 Block	7,820	0	0	7,820	0	0	0	0	0	0	29,327
5	3RD FL FC	11,955	0	0	11,955	0	0	0	0	0	0	44,83[illegible]
Zone	5 Total/Ave.	11,955	0	0	11,955	0	0	0	0	0	0	44,83[illegible]
Zone	5 Block	11,955	0	0	11,955	0	0	0	0	0	0	44,831
System	5 Total/Ave.	11,955	0	0	11,955	0	0	0	0	0	0	44,831
System	5 Block	11,955	0	0	11,955	0	0	0	0	0	0	44,831
6	4TH FL AHU	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
Zone	6 Total/Ave.	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
Zone	6 Block	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
System	6 Total/Ave.	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447
System	6 Block	43,461	0	0	43,461	2,445	0	24,447	0	0	0	24,447

ROOM PSYCHROMETRICS - ALTERNATIVE 1
BLDG G101, BASELINE

------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S --------------

Room 2

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	76.0	63.2	50.0	69.8	29.2	
Main System						
Return Air Heat Pickup						-0.1
Return Fan						0.1
Return Air	76.0	63.2	50.0	69.8	29.2	
Outdoor Air	92.3	74.4	44.2	105.0	38.7	
Return/Outdoor Air Mix	76.0	63.2	50.0	69.8	29.2	
Blow through Fan						0.1
Entering Coil	76.1	63.2	49.9	69.8	29.2	
Leaving Coil	58.6	56.0	85.6	65.5	24.3	
Draw Through Fan						0.0
Duct Frictional Heat						0.2
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	58.8	56.1	85.0	65.5	24.3	
Supply Air	58.8	56.1	85.0	65.5	24.3	

Percent Outside Air	0.00	(%)
Sensible Heat Ratio (SHR)	0.851	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	11,285	(Cfm)

ROOM PSYCHROMETRICS - ALTERNATIVE 1
BLDG G101, BASELINE

-------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S ---------------

Room 4

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	76.0	63.2	50.0	69.8	29.2	
Main System						
Return Air Heat Pickup						-0.1
Return Fan						0.1
Return Air	76.0	63.2	50.0	69.8	29.2	
Outdoor Air	92.3	74.4	44.2	105.0	38.7	
Return/Outdoor Air Mix	76.0	63.2	50.0	69.8	29.2	
Blow through Fan						0.1
Entering Coil	76.1	63.2	49.9	69.8	29.2	
Leaving Coil	60.3	57.1	82.9	67.5	25.0	
Draw Through Fan						0.0
Duct Frictional Heat						0.2
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	60.5	57.2	82.3	67.5	25.0	
Supply Air	60.5	57.2	82.3	67.5	25.0	

Percent Outside Air	0.00	(%)
Sensible Heat Ratio (SHR)	0.898	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	29,327	(Cfm)

ROOM PSYCHROMETRICS - ALTERNATIVE 1
BLDG G101, BASELINE

------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S --------------

Room 5

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	76.0	63.2	50.0	69.8	29.2	
Main System						
Return Air Heat Pickup						-0.1
Return Fan						0.1
Return Air	76.0	63.2	50.0	69.8	29.2	
Outdoor Air	92.3	74.4	44.2	105.0	38.7	
Return/Outdoor Air Mix	76.0	63.2	50.0	69.8	29.2	
Blow through Fan						0.1
Entering Coil	76.1	63.2	49.9	69.8	29.2	
Leaving Coil	60.1	57.0	83.3	67.2	24.9	
Draw Through Fan						0.0
Duct Frictional Heat						0.2
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	60.3	57.0	82.7	67.2	24.9	
Supply Air	60.3	57.0	82.7	67.2	24.9	

Percent Outside Air	0.00	(%)
Sensible Heat Ratio (SHR)	0.889	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	44,831	(Cfm)

ZONE PSYCHROMETRICS - ALTERNATIVE 1
BLDG G101, BASELINE

-------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S ---------------

Zone 1

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	76.0	63.2	50.0	69.8	29.2	
Main System						
Return Air Heat Pickup						0.0
Return Fan						0.0
Return Air	76.0	63.2	50.0	69.8	29.2	
Outdoor Air	92.3	74.4	44.2	105.0	38.7	
Return/Outdoor Air Mix	77.6	64.5	49.7	73.3	30.1	
Blow through Fan						0.0
Entering Coil	77.6	64.5	49.7	73.3	30.1	
Leaving Coil	60.8	57.9	84.5	70.0	25.5	
Draw Through Fan						0.7
Duct Frictional Heat						0.9
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	62.5	58.5	79.7	70.0	25.9	
Supply Air	62.5	58.5	79.7	70.0	25.9	

Percent Outside Air	10.00	(%)
Sensible Heat Ratio (SHR)	0.959	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	21,228	(Cfm)

ZONE PSYCHROMETRICS - ALTERNATIVE 1
BLDG G101, BASELINE

-------------- P S Y C H R O M E T R I C S T A T E P O I N T S --------------

Zone 3

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	76.0	63.2	50.0	69.8	29.2	
Main System						
Return Air Heat Pickup						0.0
Return Fan						0.0
Return Air	76.0	63.2	50.0	69.8	29.2	
Outdoor Air	92.3	74.4	44.2	105.0	38.7	
Return/Outdoor Air Mix	77.6	64.5	49.7	73.3	30.1	
Blow through Fan						0.0
Entering Coil	77.6	64.5	49.7	73.3	30.1	
Leaving Coil	60.6	57.7	84.9	69.7	25.4	
Draw Through Fan						0.7
Duct Frictional Heat						0.9
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	62.2	58.3	80.0	69.7	25.8	
Supply Air	62.2	58.3	80.0	69.7	25.8	

Percent Outside Air	10.00	(%)
Sensible Heat Ratio (SHR)	0.949	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	11,305	(Cfm)

ZONE PSYCHROMETRICS - ALTERNATIVE 1
BLDG G101, BASELINE

-------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S ---------------

Zone 6

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	76.0	63.2	50.0	69.8	29.2	
Main System						
Return Air Heat Pickup						0.0
Return Fan						0.0
Return Air	76.0	63.2	50.0	69.8	29.2	
Outdoor Air	92.0	74.4	44.6	105.0	38.6	
Return/Outdoor Air Mix	77.6	64.5	49.8	73.3	30.1	
Blow through Fan						0.0
Entering Coil	77.6	64.5	49.8	73.3	30.1	
Leaving Coil	60.8	57.9	84.5	70.0	25.5	
Draw Through Fan						0.7
Duct Frictional Heat						0.9
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	62.5	58.5	79.7	70.0	25.9	
Supply Air	62.5	58.5	79.7	70.0	25.9	

Percent Outside Air	10.00	(%)
Sensible Heat Ratio (SHR)	0.958	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	24,447	(Cfm)

BUILDING U-VALUES - ALTERNATIVE 1
BLDG G101, BASELINE

B U I L D I N G U - V A L U E S

Room Number	Description	Room U-Values (Btu/hr/sqft/F) Part.	ExFlr	Summr Skylt	Wintr Skylt	Roof	Summr Windo	Wintr Windo	Wall	Ceil.	Room Mass (lb/ sqft)	Room Capac. (Btu/ sqft/F)
1	1ST FL AHU	0.000	0.620	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.6	5.11
Zone	1 Total/Ave.	0.000	0.620	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.6	5.11
System	1 Total/Ave.	0.000	0.620	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.6	5.11
2	1ST FL FC	0.000	0.620	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.5	5.10
Zone	2 Total/Ave.	0.000	0.620	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.5	5.10
System	2 Total/Ave.	0.000	0.620	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.5	5.10
3	2ND FL AHU	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	24.0	4.80
Zone	3 Total/Ave.	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	24.0	4.80
System	3 Total/Ave.	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	24.0	4.80
4	2ND FL FC	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.3	5.06
Zone	4 Total/Ave.	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.3	5.06
System	4 Total/Ave.	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	25.3	5.06
5	3RD FL FC	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	24.0	4.80
Zone	5 Total/Ave.	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	24.0	4.80
System	5 Total/Ave.	0.000	0.000	0.000	0.000	0.000	1.100	1.211	0.250	0.317	24.0	4.80
6	4TH FL AHU	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.250	0.317	36.6	9.46
Zone	6 Total/Ave.	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.250	0.317	36.6	9.46
System	6 Total/Ave.	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.250	0.317	36.6	9.46
Building		0.000	0.620	0.000	0.000	0.030	1.100	1.211	0.250	0.317	27.7	6.05

BUILDING AREAS - ALTERNATIVE 1
BLDG G101, BASELINE

B U I L D I N G   A R E A S

Room Number	Description	Number of Duplicate Flr	Rm	Floor Area/Dupl Room (sqft)	Total Floor Area (sqft)	Partition Area (sqft)	Exposed Floor Area (sqft)	Skylight Area (sqft)	Skl /Rf (%)	Net Roof Area (sqft)	Window Area (sqft)	Win /Wl (%)	Net Wall Area (sqft)
1	1ST FL AHU	1	1	20,697	20,697	0	700	0	0	0	1,064	15	6,141
Zone	1 Total/Ave.				20,697	0	700	0	0	0	1,064	15	6,141
System	1 Total/Ave.				20,697	0	700	0	0	0	1,064	15	6,141
2	1ST FL FC	1	1	10,260	10,260	0	387	0	0	0	840	22	3,025
Zone	2 Total/Ave.				10,260	0	387	0	0	0	840	22	3,025
System	2 Total/Ave.				10,260	0	387	0	0	0	840	22	3,025
3	2ND FL AHU	1	1	10,435	10,435	0	0	0	0	0	140	5	2,700
Zone	3 Total/Ave.				10,435	0	0	0	0	0	140	5	2,700
System	3 Total/Ave.				10,435	0	0	0	0	0	140	5	2,700
4	2ND FL FC	1	1	20,580	20,580	0	0	0	0	0	1,764	23	5,966
Zone	4 Total/Ave.				20,580	0	0	0	0	0	1,764	23	5,966
System	4 Total/Ave.				20,580	0	0	0	0	0	1,764	23	5,966
5	3RD FL FC	1	1	29,105	29,105	0	0	0	0	0	2,660	26	7,510
Zone	5 Total/Ave.				29,105	0	0	0	0	0	2,660	26	7,510
System	5 Total/Ave.				29,105	0	0	0	0	0	2,660	26	7,510
6	4TH FL AHU	1	1	29,105	29,105	0	0	0	0	29,105	0	0	10,170
Zone	6 Total/Ave.				29,105	0	0	0	0	29,105	0	0	10,170
System	6 Total/Ave.				29,105	0	0	0	0	29,105	0	0	10,170
Building					120,182	0	1,087	0	0	29,105	6,468	15	35,512

ASHRAE 90 ANALYSIS - ALTERNATIVE 1
BLDG G101, BASELINE

A S H R A E   9 0   A N A L Y S I S

Overall Roof U-Value = 0.030 (Btu/Hr/Sq Ft/F)
Overall Wall U-Value = 0.381 (Btu/Hr/Sq Ft/F)
Overall Building U-Value = 0.237 (Btu/Hr/Sq Ft/F)

Roof Overall Thermal Transfer Value (OTTVr) = 1.15 (Btu/Hr/Sq Ft)
Wall Overall Thermal Transfer Value (OTTVw) = 22.75 (Btu/Hr/Sq Ft)
^R

SYSTEM LOAD PROFILE - ALTERNATIVE 1
BLDG G101, BASELINE

Main System 1 SZ SINGLE ZONE

Percent Design Load	---- Cooling Load ----			------ Heating Load ------			---- Cooling Airflow -----			---- Heating Airflow -----		
	Cap. (Ton)	Hours (%)	Hours	Capacity (Btuh)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours
0 - 5	1.8	5	183	-11,901	5	48	1,061.4	0	0	0.0	0	0
5 - 10	3.6	11	385	-23,803	4	37	2,122.8	0	0	0.0	0	0
10 - 15	5.4	10	367	-35,704	4	41	3,184.2	0	0	0.0	0	0
15 - 20	7.2	9	345	-47,606	8	77	4,245.6	0	0	0.0	0	0
20 - 25	9.0	10	359	-59,507	9	91	5,307.0	0	0	0.0	0	0
25 - 30	10.7	7	263	-71,408	12	115	6,368.4	0	0	0.0	0	0
30 - 35	12.5	10	366	-83,310	11	114	7,429.8	0	0	0.0	0	0
35 - 40	14.3	3	114	-95,211	7	65	8,491.2	0	0	0.0	0	0
40 - 45	16.1	3	124	-107,112	8	79	9,552.6	0	0	0.0	0	0
45 - 50	17.9	3	108	-119,014	12	118	10,614.0	0	0	0.0	0	0
50 - 55	19.7	4	149	-130,915	3	34	11,675.4	0	0	0.0	0	0
55 - 60	21.5	3	109	-142,817	14	138	12,736.8	0	0	0.0	0	0
60 - 65	23.3	3	102	-154,718	4	40	13,798.2	0	0	0.0	0	0
65 - 70	25.1	6	217	-166,619	0	0	14,859.6	0	0	0.0	0	0
70 - 75	26.9	5	193	-178,521	0	0	15,921.0	0	0	0.0	0	0
75 - 80	28.6	2	84	-190,422	0	0	16,982.4	0	0	0.0	0	0
80 - 85	30.4	2	65	-202,324	0	0	18,043.8	0	0	0.0	0	0
85 - 90	32.2	4	130	-214,225	0	0	19,105.2	0	0	0.0	0	0
90 - 95	34.0	0	0	-226,126	0	0	20,166.6	0	0	0.0	0	0
95 - 100	35.8	0	0	-238,028	0	0	21,228.0	100	8,760	0.0	0	0
Hours Off	0.0	0	5,097	0	0	7,763	0.0	0	0	0.0	0	8,760

Main System 2 FC FAN COIL

Percent Design Load	---- Cooling Load ----			------ Heating Load ------			---- Cooling Airflow -----			---- Heating Airflow -----		
	Cap. (Ton)	Hours (%)	Hours	Capacity (Btuh)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours
0 - 5	1.1	10	264	-10,356	9	162	564.3	0	0	0.0	0	0
5 - 10	2.1	15	394	-20,712	4	73	1,128.5	0	0	0.0	0	0
10 - 15	3.2	9	225	-31,068	10	166	1,692.8	0	0	0.0	0	0
15 - 20	4.3	13	351	-41,424	10	177	2,257.0	0	0	0.0	0	0
20 - 25	5.4	6	156	-51,780	10	182	2,821.3	0	0	0.0	0	0
25 - 30	6.4	2	54	-62,136	10	173	3,385.5	0	0	0.0	0	0
30 - 35	7.5	9	232	-72,492	18	318	3,949.8	0	0	0.0	0	0
35 - 40	8.6	5	131	-82,848	21	372	4,514.1	0	0	0.0	0	0
40 - 45	9.7	5	124	-93,204	7	115	5,078.3	0	0	0.0	0	0
45 - 50	10.7	3	91	-103,560	0	0	5,642.6	0	0	0.0	0	0
50 - 55	11.8	6	171	-113,916	0	0	6,206.8	0	0	0.0	0	0
55 - 60	12.9	10	252	-124,272	0	0	6,771.1	0	0	0.0	0	0
60 - 65	14.0	0	0	-134,628	0	0	7,335.4	0	0	0.0	0	0
65 - 70	15.0	0	0	-144,984	0	0	7,899.6	0	0	0.0	0	0
70 - 75	16.1	6	150	-155,340	0	0	8,463.9	0	0	0.0	0	0
75 - 80	17.2	2	45	-165,696	0	0	9,028.1	0	0	0.0	0	0
80 - 85	18.3	0	0	-176,052	0	0	9,592.4	0	0	0.0	0	0
85 - 90	19.3	0	0	-186,408	0	0	10,156.6	0	0	0.0	0	0
90 - 95	20.4	0	0	-196,764	0	0	10,720.9	0	0	0.0	0	0
95 - 100	21.5	0	0	-207,119	0	0	11,285.2	100	8,760	0.0	0	0
Hours Off	0.0	0	6,120	0	0	7,022	0.0	0	0	0.0	0	8,760

SYSTEM LOAD PROFILE - ALTERNATIVE 1
BLDG G101, BASELINE

Main System 3 SZ SINGLE ZONE

Percent	---- Cooling Load ----			------ Heating Load ------			---- Cooling Airflow -----			---- Heating Airflow -----		
Design Load	Cap. (Ton)	Hours (%)	Hours	Capacity (Btuh)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours
0 - 5	1.0	8	325	-4,123	5	26	565.2	0	0	0.0	0	0
5 - 10	2.0	8	331	-8,246	2	10	1,130.5	0	0	0.0	0	0
10 - 15	3.0	15	609	-12,369	8	42	1,695.7	0	0	0.0	0	0
15 - 20	4.0	9	372	-16,492	6	31	2,260.9	0	0	0.0	0	0
20 - 25	5.0	10	398	-20,615	13	69	2,826.1	0	0	0.0	0	0
25 - 30	6.0	11	423	-24,738	7	36	3,391.4	0	0	0.0	0	0
30 - 35	7.0	3	138	-28,862	7	36	3,956.6	0	0	0.0	0	0
35 - 40	8.0	1	22	-32,985	8	44	4,521.8	0	0	0.0	0	0
40 - 45	9.0	1	42	-37,108	9	47	5,087.0	0	0	0.0	0	0
45 - 50	10.0	2	66	-41,231	10	56	5,652.3	0	0	0.0	0	0
50 - 55	11.0	3	131	-45,354	7	37	6,217.5	0	0	0.0	0	0
55 - 60	12.0	1	42	-49,477	11	62	6,782.7	0	0	0.0	0	0
60 - 65	13.0	4	174	-53,600	8	46	7,348.0	0	0	0.0	0	0
65 - 70	14.0	4	167	-57,723	0	0	7,913.2	0	0	0.0	0	0
70 - 75	15.0	3	107	-61,846	0	0	8,478.4	0	0	0.0	0	0
75 - 80	16.0	6	240	-65,969	0	0	9,043.6	0	0	0.0	0	0
80 - 85	17.0	4	147	-70,092	0	0	9,608.9	0	0	0.0	0	0
85 - 90	18.0	2	65	-74,215	0	0	10,174.1	0	0	0.0	0	0
90 - 95	19.0	4	150	-78,338	0	0	10,739.3	0	0	0.0	0	0
95 - 100	20.0	0	0	-82,461	0	0	11,304.5	100	8,760	0.0	0	0
Hours Off	0.0	0	4,811	0	0	8,218	0.0	0	0	0.0	0	8,760

Main System 4 FC FAN COIL

Percent	---- Cooling Load ----			------ Heating Load ------			---- Cooling Airflow -----			---- Heating Airflow -----		
Design Load	Cap. (Ton)	Hours (%)	Hours	Capacity (Btuh)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours
0 - 5	2.4	11	311	-19,658	5	79	1,466.3	0	0	0.0	0	0
5 - 10	4.9	15	410	-39,315	4	60	2,932.7	0	0	0.0	0	0
10 - 15	7.3	12	342	-58,973	5	68	4,399.0	0	0	0.0	0	0
15 - 20	9.8	11	298	-78,631	11	165	5,865.3	0	0	0.0	0	0
20 - 25	12.2	3	83	-98,288	12	170	7,331.7	0	0	0.0	0	0
25 - 30	14.7	5	143	-117,946	13	192	8,798.0	0	0	0.0	0	0
30 - 35	17.1	5	141	-137,603	7	101	10,264.3	0	0	0.0	0	0
35 - 40	19.6	6	165	-157,261	28	402	11,730.7	0	0	0.0	0	0
40 - 45	22.0	5	129	-176,919	14	205	13,197.0	0	0	0.0	0	0
45 - 50	24.5	2	47	-196,576	0	0	14,663.3	0	0	0.0	0	0
50 - 55	26.9	7	195	-216,234	0	0	16,129.7	0	0	0.0	0	0
55 - 60	29.3	6	172	-235,892	0	0	17,596.0	0	0	0.0	0	0
60 - 65	31.8	5	147	-255,549	0	0	19,062.3	0	0	0.0	0	0
65 - 70	34.2	0	0	-275,207	0	0	20,528.7	0	0	0.0	0	0
70 - 75	36.7	2	43	-294,865	0	0	21,995.0	0	0	0.0	0	0
75 - 80	39.1	5	152	-314,522	0	0	23,461.3	0	0	0.0	0	0
80 - 85	41.6	0	0	-334,180	0	0	24,927.7	0	0	0.0	0	0
85 - 90	44.0	0	0	-353,837	0	0	26,394.0	0	0	0.0	0	0
90 - 95	46.5	0	0	-373,495	0	0	27,860.3	0	0	0.0	0	0
95 - 100	48.9	0	0	-393,153	0	0	29,326.6	100	8,760	0.0	0	0
Hours Off	0.0	0	5,982	0	0	7,318	0.0	0	0	0.0	0	8,760

SYSTEM LOAD PROFILE - ALTERNATIVE 1
BLDG G101, BASELINE

Main System 5 FC FAN COIL

Percent Design Load	---- Cooling Load ---- Cap. (Ton)	Hours (%)	Hours	------ Heating Load ------ Capacity (Btuh)	Hours (%)	Hours	---- Cooling Airflow ----- Cap. (Cfm)	Hours (%)	Hours	---- Heating Airflow ----- Cap. (Cfm)	Hours (%)	Hours
0 - 5	3.8	2	93	-27,686	50	3	2,241.5	0	0	0.0	0	0
5 - 10	7.6	4	173	-55,372	0	0	4,483.1	0	0	0.0	0	0
10 - 15	11.4	9	395	-83,059	50	3	6,724.6	0	0	0.0	0	0
15 - 20	15.2	15	664	-110,745	0	0	8,966.2	0	0	0.0	0	0
20 - 25	18.9	10	459	-138,431	0	0	11,207.7	0	0	0.0	0	0
25 - 30	22.7	13	563	-166,117	0	0	13,449.2	0	0	0.0	0	0
30 - 35	26.5	9	410	-193,804	0	0	15,690.8	0	0	0.0	0	0
35 - 40	30.3	10	432	-221,490	0	0	17,932.3	0	0	0.0	0	0
40 - 45	34.1	6	245	-249,176	0	0	20,173.9	0	0	0.0	0	0
45 - 50	37.9	3	147	-276,862	0	0	22,415.4	0	0	0.0	0	0
50 - 55	41.7	4	173	-304,549	0	0	24,657.0	0	0	0.0	0	0
55 - 60	45.5	5	213	-332,235	0	0	26,898.5	0	0	0.0	0	0
60 - 65	49.3	5	234	-359,921	0	0	29,140.0	0	0	0.0	0	0
65 - 70	53.0	0	20	-387,607	0	0	31,381.6	0	0	0.0	0	0
70 - 75	56.8	0	0	-415,294	0	0	33,623.1	0	0	0.0	0	0
75 - 80	60.6	3	150	-442,980	0	0	35,864.7	0	0	0.0	0	0
80 - 85	64.4	1	45	-470,666	0	0	38,106.2	0	0	0.0	0	0
85 - 90	68.2	0	0	-498,352	0	0	40,347.8	0	0	0.0	0	0
90 - 95	72.0	0	0	-526,039	0	0	42,589.3	0	0	0.0	0	0
95 - 100	75.8	0	0	-553,725	0	0	44,830.8	100	8,760	0.0	0	0
Hours Off	0.0	0	4,344	0	0	8,754	0.0	0	0	0.0	0	8,760

Main System 6 SZ SINGLE ZONE

Percent Design Load	---- Cooling Load ---- Cap. (Ton)	Hours (%)	Hours	------ Heating Load ------ Capacity (Btuh)	Hours (%)	Hours	---- Cooling Airflow ----- Cap. (Cfm)	Hours (%)	Hours	---- Heating Airflow ----- Cap. (Cfm)	Hours (%)	Hours
0 - 5	2.1	7	269	-12,472	4	37	1,222.3	0	0	0.0	0	0
5 - 10	4.1	12	442	-24,944	3	29	2,444.7	0	0	0.0	0	0
10 - 15	6.2	6	235	-37,416	9	86	3,667.0	0	0	0.0	0	0
15 - 20	8.2	7	257	-49,888	8	69	4,889.3	0	0	0.0	0	0
20 - 25	10.3	8	290	-62,360	5	47	6,111.7	0	0	0.0	0	0
25 - 30	12.3	7	261	-74,831	5	45	7,334.0	0	0	0.0	0	0
30 - 35	14.4	6	229	-87,303	7	63	8,556.4	0	0	0.0	0	0
35 - 40	16.5	4	141	-99,775	8	75	9,778.7	0	0	0.0	0	0
40 - 45	18.5	10	375	-112,247	7	68	11,001.0	0	0	0.0	0	0
45 - 50	20.6	7	241	-124,719	7	62	12,223.4	0	0	0.0	0	0
50 - 55	22.6	2	60	-137,191	9	82	13,445.7	0	0	0.0	0	0
55 - 60	24.7	3	112	-149,663	6	59	14,668.1	0	0	0.0	0	0
60 - 65	26.8	5	172	-162,135	7	67	15,890.4	0	0	0.0	0	0
65 - 70	28.8	5	172	-174,607	13	116	17,112.7	0	0	0.0	0	0
70 - 75	30.9	2	82	-187,079	1	9	18,335.1	0	0	0.0	0	0
75 - 80	32.9	3	108	-199,550	0	0	19,557.4	0	0	0.0	0	0
80 - 85	35.0	2	65	-212,022	0	0	20,779.7	0	0	0.0	0	0
85 - 90	37.0	3	107	-224,494	0	0	22,002.1	0	0	0.0	0	0
90 - 95	39.1	0	0	-236,966	0	0	23,224.4	0	0	0.0	0	0
95 - 100	41.2	0	0	-249,438	0	0	24,446.7	100	8,760	0.0	0	0
Hours Off	0.0	0	5,142	0	0	7,846	0.0	0	0	0.0	0	8,760

SYSTEM TOTALS LOAD PROFILE - ALTERNATIVE 1
BLDG G101, BASELINE

-- S Y S T E M   L O A D   P R O F I L E --

System Totals

Percent Design Load	Cooling Load Cap. (Ton)	Cooling Load Hours (%)	Cooling Load Hours	Heating Load Capacity (Btuh)	Heating Load Hours (%)	Heating Load Hours	Cooling Airflow Cap. (Cfm)	Cooling Airflow Hours (%)	Cooling Airflow Hours	Heating Airflow Cap. (Cfm)	Heating Airflow Hours (%)	Heating Airflow Hours
0 - 5	12.2	13	564	-86,196	25	444	7,121.1	0	0	0.0	0	0
5 - 10	24.3	16	725	-172,392	11	188	14,242.2	0	0	0.0	0	0
10 - 15	36.5	12	540	-258,589	24	422	21,363.3	0	0	0.0	0	0
15 - 20	48.6	9	405	-344,785	11	195	28,484.4	0	0	0.0	0	0
20 - 25	60.8	6	280	-430,981	7	122	35,605.5	0	0	0.0	0	0
25 - 30	72.9	8	362	-517,177	10	173	42,726.6	0	0	0.0	0	0
30 - 35	85.1	6	261	-603,373	9	162	49,847.7	0	0	0.0	0	0
35 - 40	97.3	3	115	-689,570	2	33	56,968.8	0	0	0.0	0	0
40 - 45	109.4	4	182	-775,766	0	3	64,089.9	0	0	0.0	0	0
45 - 50	121.6	4	184	-861,962	0	0	71,211.0	0	0	0.0	0	0
50 - 55	133.7	2	89	-948,158	0	0	78,332.1	0	0	0.0	0	0
55 - 60	145.9	3	153	-1,034,355	0	0	85,453.2	0	0	0.0	0	0
60 - 65	158.0	4	171	-1,120,551	0	0	92,574.3	0	0	0.0	0	0
65 - 70	170.2	4	190	-1,206,747	0	0	99,695.4	0	0	0.0	0	0
70 - 75	182.4	0	0	-1,292,943	0	0	106,816.4	0	0	0.0	0	0
75 - 80	194.5	2	88	-1,379,140	0	0	113,937.5	0	0	0.0	0	0
80 - 85	206.7	2	107	-1,465,336	0	0	121,058.6	0	0	0.0	0	0
85 - 90	218.8	0	0	-1,551,532	0	0	128,179.7	0	0	0.0	0	0
90 - 95	231.0	0	0	-1,637,728	0	0	135,300.8	0	0	0.0	0	0
95 - 100	243.1	0	0	-1,723,924	0	0	142,421.9	100	8,760	0.0	0	0
Hours Off	0.0	0	4,344	0	0	7,018	0.0	0	0	0.0	0	8,760

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
BLDG G101, BASELINE

January			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	33.4	30.4	-608,634	0.0	-213,519	0.0	-113,350	0.0	-521,697	0.0	-521,697	0.0
2	32.1	29.3	-654,546	0.0	-223,028	0.0	-427,242	0.0	-556,449	0.0	-556,449	0.0
3	31.7	29.3	-695,731	0.0	-233,030	0.0	-530,660	0.0	-580,041	0.0	-580,041	0.0
4	31.9	29.5	-720,659	0.0	-233,126	0.0	-539,311	0.0	-590,059	0.0	-590,059	0.0
5	32.6	30.3	-740,165	0.0	-244,885	0.0	-557,165	0.0	-608,001	0.0	-608,001	0.0
6	33.6	31.3	-742,302	0.0	-420,524	0.0	-568,386	0.0	-618,968	0.0	-618,968	0.0
7	35.0	32.6	-728,260	0.0	-546,940	0.0	-546,996	0.0	-595,879	0.0	-595,879	0.0
8	36.6	34.4	-26,575	0.0	-26,831	0.0	-493,545	0.0	-539,387	0.0	-26,860	0.0
9	38.5	36.3	0	0.0	0	0.0	-451,673	0.0	-494,803	0.0	0	0.0
10	40.4	37.7	0	0.0	0	0.0	-398,882	0.0	-437,828	0.0	0	0.0
11	42.3	38.7	0	0.0	0	0.0	-342,287	0.0	-375,514	0.0	0	0.0
12	44.2	39.6	0	0.0	0	0.0	-284,118	0.0	-311,537	0.0	0	0.0
13	45.8	40.5	0	0.0	0	0.0	-232,469	0.0	-254,540	0.0	0	0.0
14	47.2	41.1	0	0.0	0	0.0	-214,763	0.0	-232,832	0.0	0	0.0
15	48.2	41.6	0	0.0	0	0.0	-194,672	0.0	-200,983	0.0	0	0.0
16	48.9	41.8	0	0.0	0	0.0	-161,448	0.0	-161,452	0.0	0	0.0
17	49.1	41.9	0	0.0	0	0.0	-211,844	0.0	-211,848	0.0	0	0.0
18	48.7	41.9	0	0.0	0	0.0	-219,611	0.0	-219,611	0.0	0	0.0
19	47.4	41.7	0	0.0	0	0.0	-236,445	0.0	-236,445	0.0	0	0.0
20	45.5	40.5	0	0.0	0	0.0	-268,752	0.0	-268,752	0.0	0	0.0
21	43.1	38.9	0	0.0	0	0.0	-330,964	0.0	-330,964	0.0	0	0.0
22	40.4	36.7	0	0.0	0	0.0	-381,619	0.0	-381,619	0.0	0	0.0
23	37.7	34.3	-45,557	0.0	-26,615	0.0	-435,634	0.0	-435,634	0.0	-26,615	0.0
24	35.3	32.3	-133,899	0.0	-69,737	0.0	-492,085	0.0	-492,085	0.0	-69,737	0.0

February			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	37.5	34.5	-195,956	0.0	-209,716	0.0	-224,337	0.0	-486,246	0.0	-486,246	0.0
2	36.0	33.0	-338,694	0.0	-231,450	0.0	-480,799	0.0	-528,705	0.0	-528,705	0.0
3	34.7	31.8	-512,565	0.0	-230,224	0.0	-501,287	0.0	-545,408	0.0	-545,408	0.0
4	33.6	30.9	-540,990	0.0	-241,400	0.0	-528,579	0.0	-575,596	0.0	-575,596	0.0
5	32.8	30.1	-557,268	0.0	-250,334	0.0	-550,931	0.0	-599,878	0.0	-599,878	0.0
6	32.2	29.8	-560,286	0.0	-334,410	0.0	-569,823	0.0	-620,320	0.0	-639,515	0.0
7	32.1	29.6	-544,984	0.0	-481,617	0.0	-574,551	0.0	-626,324	0.0	-699,164	0.0
8	32.5	30.3	-4,518	0.0	-35,040	0.0	-503,000	0.0	-551,382	0.0	-35,037	0.0
9	33.9	31.6	0	0.0	0	0.0	-497,287	0.0	-545,687	0.0	0	0.0
10	36.0	33.0	0	0.0	0	0.0	-477,910	0.0	-522,862	0.0	0	0.0
11	38.5	34.8	0	0.0	0	0.0	-441,935	0.0	-481,174	0.0	0	0.0
12	41.3	36.5	0	0.0	0	0.0	-363,945	0.0	-396,189	0.0	0	0.0
13	43.8	38.1	0	0.0	0	0.0	-317,106	0.0	-343,866	0.0	0	0.0
14	45.9	39.5	0	0.0	0	0.0	-283,832	0.0	-305,774	0.0	0	0.0
15	47.2	40.4	0	0.0	0	0.0	-221,219	0.0	-236,229	0.0	0	0.0
16	47.7	40.6	0	0.0	0	0.0	-221,306	0.0	-221,301	0.0	0	0.0
17	47.5	40.2	0	0.0	0	0.0	-218,481	0.0	-218,490	0.0	0	0.0
18	47.0	39.8	0	0.0	0	0.0	-292,096	0.0	-292,096	0.0	0	0.0
19	46.2	39.9	0	0.0	0	0.0	-280,674	0.0	-280,674	0.0	0	0.0
20	45.1	39.7	0	0.0	0	0.0	-303,346	0.0	-303,346	0.0	0	0.0
21	43.8	39.2	0	0.0	-22,033	0.0	-331,482	0.0	-331,482	0.0	-22,033	0.0
22	42.3	38.3	0	0.0	-54,909	0.0	-364,190	0.0	-364,190	0.0	-54,909	0.0
23	40.7	37.2	-53,390	0.0	-62,353	0.0	-414,261	0.0	-414,261	0.0	-62,353	0.0
24	39.1	35.8	-122,323	0.0	-155,433	0.0	-446,424	0.0	-446,424	0.0	-155,433	0.0

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
BLDG G101, BASELINE

March			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	45.4	41.6	-185,393	0.0	0	0.0	0	0.0	-218,375	0.0	-234,822	0.0
2	43.3	39.7	-201,204	0.0	0	0.0	0	0.0	-243,440	0.0	-322,581	0.0
3	41.6	38.6	-249,004	0.0	0	0.0	0	0.0	-266,622	0.0	-360,739	0.0
4	40.6	37.5	-339,254	0.0	0	0.0	-51,245	0.0	-277,378	0.0	-411,930	0.0
5	40.2	37.3	-359,729	0.0	-6,852	0.0	-64,849	0.0	-322,688	0.0	-438,243	0.0
6	40.6	37.8	-364,534	0.0	-63,999	0.0	-150,560	0.0	-408,285	0.0	-441,996	0.0
7	41.6	39.0	-215,482	0.0	-55,746	0.0	-136,288	0.0	-327,323	0.0	-355,286	0.0
8	43.3	40.7	0	0.0	0	0.0	-121,813	0.0	-302,380	0.0	0	0.0
9	45.4	42.5	0	0.0	0	0.0	-125,899	0.0	-292,270	0.0	0	0.0
10	47.9	44.3	0	0.0	0	0.0	-137,685	0.0	-276,853	0.0	0	0.0
11	50.6	45.5	0	0.0	0	0.0	-86,074	0.0	-182,390	0.0	0	0.0
12	53.3	46.8	0	0.0	0	0.0	-37,677	0.0	-94,567	0.0	0	0.0
13	55.8	48.5	0	0.0	0	0.0	-17,808	0.0	-45,277	0.0	0	0.0
14	58.0	49.6	0	0.0	0	0.0	0	0.0	-6,355	0.0	0	0.0
15	59.6	50.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	60.7	50.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	61.0	50.9	0	0.0	0	0.0	-2,562	0.0	-2,562	0.0	0	0.0
18	60.7	50.7	0	0.0	0	0.0	-21,448	0.0	-21,448	0.0	0	0.0
19	59.6	50.7	0	0.0	0	0.0	-56,054	0.0	-56,054	0.0	0	0.0
20	58.0	50.5	0	0.0	0	0.0	-58,531	0.0	-58,531	0.0	0	0.0
21	55.8	49.4	0	0.0	0	0.0	-67,601	0.0	-67,601	0.0	0	0.0
22	53.3	47.8	0	0.0	0	0.0	-94,437	0.0	-94,437	0.0	0	0.0
23	50.6	45.9	0	0.0	-1,103	0.0	-114,302	0.0	-138,378	0.0	-1,103	0.0
24	47.9	43.8	0	0.0	0	0.0	-136,227	0.0	-183,759	0.0	0	0.0

April			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	57.7	53.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	55.9	52.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	54.2	51.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	52.9	50.2	0	0.0	0	0.0	0	0.0	0	0.0	-18,096	0.0
5	51.9	49.6	0	0.0	0	0.0	0	0.0	0	0.0	-36,565	0.0
6	51.2	49.2	-10,419	0.0	0	0.0	0	0.0	0	0.0	-63,104	0.0
7	51.0	49.3	0	0.0	0	0.0	0	0.0	0	0.0	-32,981	0.0
8	51.6	49.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	53.3	50.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	55.9	51.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	59.0	53.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	62.4	55.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	65.5	57.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	68.1	59.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	69.8	60.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	70.4	60.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	70.2	60.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	69.5	60.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	68.5	59.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	67.2	59.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	65.5	59.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	63.7	58.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	61.7	57.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	59.7	55.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
BLDG G101, BASELINE

May			Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	66.6	62.3	0	243.1	0	17.3	0	18.6	0	18.6	0	18.6
2	64.5	60.4	0	198.2	0	13.1	0	13.6	0	13.6	0	13.6
3	62.7	59.1	0	165.2	0	10.0	0	10.1	0	10.1	0	10.1
4	61.2	58.1	0	136.5	0	8.0	0	8.0	0	8.0	0	8.0
5	60.0	57.1	0	115.8	0	6.4	0	6.4	0	6.4	0	6.4
6	59.3	56.6	0	25.6	0	10.5	0	10.6	0	10.6	0	10.6
7	59.0	56.5	0	36.8	0	12.5	0	12.5	0	12.5	0	12.5
8	59.5	56.6	0	109.1	0	45.2	0	13.4	0	13.4	0	46.0
9	60.9	56.6	0	138.1	0	81.5	0	13.9	0	13.9	0	81.4
10	63.0	57.2	0	142.8	0	100.4	0	18.0	0	18.0	0	100.6
11	65.7	58.1	0	149.5	0	104.9	0	19.7	0	19.7	0	104.9
12	68.7	59.8	0	158.2	0	109.0	0	22.6	0	22.6	0	109.0
13	71.7	61.6	0	144.7	0	96.4	0	30.6	0	30.6	0	96.4
14	74.5	63.4	0	181.8	0	130.8	0	40.6	0	40.6	0	130.8
15	76.6	64.8	0	192.5	0	144.7	0	52.0	0	52.0	0	144.8
16	78.0	65.6	0	194.0	0	147.5	0	60.1	0	60.1	0	147.5
17	78.5	65.6	0	162.3	0	124.8	0	61.7	0	61.7	0	124.8
18	78.2	65.8	0	114.7	0	84.8	0	56.8	0	56.8	0	84.8
19	77.5	65.6	0	68.3	0	48.0	0	48.1	0	48.1	0	48.0
20	76.3	66.1	0	60.2	0	45.1	0	45.1	0	45.1	0	45.1
21	74.8	67.2	0	51.2	0	41.1	0	41.1	0	41.1	0	41.1
22	73.0	66.4	0	42.2	0	35.2	0	35.2	0	35.2	0	35.2
23	70.9	65.4	0	34.9	0	28.8	0	28.8	0	28.8	0	28.8
24	68.7	64.0	0	28.1	0	23.7	0	23.7	0	23.7	0	23.7

June			Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	73.0	67.9	0	52.2	0	33.8	0	37.5	0	37.5	0	37.5
2	71.2	66.1	0	47.1	0	28.9	0	30.8	0	30.8	0	30.8
3	69.7	65.2	0	42.7	0	24.7	0	25.4	0	25.4	0	25.4
4	68.5	64.3	0	39.7	0	20.6	0	20.9	0	20.9	0	20.9
5	67.8	64.2	0	37.4	0	18.5	0	18.7	0	18.7	0	18.7
6	67.6	64.2	0	56.4	0	25.0	0	25.1	0	25.1	0	25.1
7	68.1	64.8	0	72.3	0	33.3	0	33.8	0	33.8	0	33.8
8	69.4	65.7	0	150.3	0	110.6	0	40.6	0	40.6	0	113.4
9	71.6	66.2	0	184.6	0	143.0	0	46.1	0	46.1	0	142.9
10	74.2	67.2	0	186.3	0	154.4	0	59.8	0	59.8	0	154.4
11	77.2	68.5	0	195.3	0	155.7	0	62.0	0	62.0	0	155.7
12	80.2	70.0	0	204.0	0	163.6	0	70.5	0	70.5	0	163.6
13	82.8	70.8	0	185.5	0	147.7	0	83.8	0	83.8	0	147.7
14	85.0	71.6	0	228.0	0	190.7	0	96.2	0	96.2	0	190.7
15	86.3	72.3	0	235.1	0	200.3	0	105.7	0	105.7	0	200.3
16	86.8	72.1	0	234.4	0	199.5	0	103.9	0	103.9	0	199.5
17	86.6	71.7	0	196.8	0	165.0	0	97.6	0	97.6	0	165.0
18	85.8	71.5	0	145.3	0	121.3	0	92.3	0	92.3	0	121.3
19	84.7	71.2	0	96.2	0	77.3	0	78.8	0	78.8	0	77.3
20	83.2	71.5	0	88.2	0	76.2	0	77.0	0	77.0	0	76.2
21	81.4	71.7	0	79.6	0	68.9	0	69.1	0	69.1	0	68.9
22	79.3	71.4	0	70.4	0	61.1	0	61.1	0	61.1	0	61.1
23	77.2	70.5	0	62.5	0	53.7	0	53.7	0	53.7	0	53.7
24	75.1	69.1	0	56.2	0	45.3	0	45.3	0	45.3	0	45.3

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
BLDG G101, BASELINE

July			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	72.0	69.3	0	54.1	0	31.8	0	36.8	0	36.8	0	36.8
2	70.5	68.0	0	47.4	0	28.1	0	30.1	0	30.1	0	30.1
3	69.4	67.1	0	42.9	0	24.7	0	25.3	0	25.3	0	25.3
4	68.5	66.4	0	40.2	0	21.8	0	22.0	0	22.0	0	22.0
5	67.9	66.0	0	37.9	0	19.8	0	19.8	0	19.8	0	19.8
6	67.7	65.9	0	52.0	0	24.1	0	24.1	0	24.1	0	24.1
7	68.1	66.3	0	72.6	0	33.2	0	33.4	0	33.4	0	33.4
8	69.1	67.3	0	157.0	0	120.6	0	43.4	0	43.4	0	121.9
9	70.8	68.0	0	184.5	0	147.6	0	49.3	0	49.3	0	147.3
10	72.9	69.1	0	190.3	0	156.8	0	60.5	0	60.5	0	156.9
11	75.2	70.5	0	196.9	0	158.3	0	63.0	0	63.0	0	158.3
12	77.5	71.7	0	204.5	0	164.2	0	70.9	0	70.9	0	164.2
13	79.6	72.7	0	187.1	0	145.0	0	82.0	0	82.0	0	145.0
14	81.3	73.5	0	228.0	0	191.7	0	94.4	0	94.4	0	191.7
15	82.3	73.7	0	235.2	0	199.0	0	103.8	0	103.8	0	199.0
16	82.7	73.5	0	234.3	0	197.6	0	101.2	0	101.2	0	197.6
17	82.5	73.1	0	195.7	0	161.2	0	93.6	0	93.6	0	161.2
18	82.0	72.6	0	141.5	0	116.5	0	88.9	0	88.9	0	116.5
19	81.1	73.2	0	91.0	0	73.5	0	76.4	0	76.4	0	73.5
20	79.9	73.8	0	85.9	0	73.9	0	74.3	0	74.3	0	73.9
21	78.5	73.9	0	77.0	0	70.0	0	70.0	0	70.0	0	70.0
22	76.9	73.1	0	68.4	0	61.6	0	61.7	0	61.7	0	61.6
23	75.2	71.9	0	61.8	0	52.5	0	52.5	0	52.5	0	52.5
24	73.5	70.8	0	55.9	0	45.1	0	45.1	0	45.1	0	45.1

August			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	72.7	70.2	0	58.2	0	33.1	0	39.0	0	39.0	0	39[illegible]
2	71.2	69.0	0	48.0	0	30.8	0	32.8	0	32.8	0	32[illegible]
3	69.9	68.0	0	42.1	0	26.9	0	27.3	0	27.3	0	27.[illegible]
4	68.8	67.1	0	38.9	0	23.2	0	23.3	0	23.3	0	23.3
5	68.0	66.6	0	36.6	0	19.8	0	19.9	0	19.9	0	19.9
6	67.5	66.2	0	42.3	0	20.7	0	20.7	0	20.7	0	20.7
7	67.3	66.1	0	69.1	0	29.3	0	29.3	0	29.3	0	29.3
8	67.8	66.5	0	153.3	0	112.3	0	34.7	0	34.7	0	114.9
9	69.1	67.0	0	184.3	0	139.1	0	41.1	0	41.1	0	139.6
10	71.2	67.8	0	188.5	0	144.3	0	49.7	0	49.7	0	144.2
11	73.8	68.7	0	195.2	0	149.9	0	55.1	0	55.1	0	149.9
12	76.5	70.0	0	202.4	0	159.8	0	66.2	0	66.2	0	159.8
13	79.1	71.2	0	182.2	0	144.4	0	80.9	0	80.9	0	144.4
14	81.1	72.6	0	228.2	0	190.6	0	93.0	0	93.0	0	190.6
15	82.5	73.6	0	237.2	0	200.1	0	104.4	0	104.4	0	200.1
16	83.0	73.7	0	235.5	0	192.6	0	95.2	0	95.2	0	192.6
17	82.8	73.5	0	198.5	0	163.6	0	95.0	0	95.0	0	163.6
18	82.3	73.5	0	138.9	0	111.6	0	84.0	0	84.0	0	111.6
19	81.5	73.1	0	91.6	0	72.4	0	75.3	0	75.3	0	72.4
20	80.4	73.7	0	84.7	0	72.9	0	73.3	0	73.3	0	72.9
21	79.1	74.9	0	77.5	0	69.2	0	69.3	0	69.3	0	69.2
22	77.6	73.9	0	69.1	0	63.7	0	63.7	0	63.7	0	63.7
23	76.0	72.7	0	60.9	0	55.4	0	55.4	0	55.4	0	55.4
24	74.3	71.3	0	54.7	0	46.6	0	46.6	0	46.6	0	46.6

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
BLDG G101, BASELINE

September			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	69.8	66.1	0	40.1	0	22.7	0	25.3	0	25.3	0	25.3
2	68.0	64.5	0	32.2	0	19.4	0	20.6	0	20.6	0	20.6
3	66.3	63.0	0	27.8	0	15.5	0	16.1	0	16.1	0	16.1
4	64.9	61.9	0	24.4	0	12.0	0	12.3	0	12.3	0	12.3
5	63.9	61.3	0	23.2	0	9.2	0	9.3	0	9.3	0	9.3
6	63.2	61.0	0	22.4	0	8.3	0	8.3	0	8.3	0	8.3
7	63.0	60.8	0	44.4	0	15.1	0	15.1	0	15.1	0	15.1
8	63.4	61.4	0	117.6	0	63.0	0	18.7	0	18.7	0	63.4
9	64.7	61.8	0	151.7	0	99.5	0	18.4	0	18.4	0	100.5
10	66.6	62.1	0	161.0	0	108.2	0	20.0	0	20.0	0	108.7
11	69.1	62.9	0	174.9	0	124.4	0	29.6	0	29.6	0	124.7
12	71.8	63.7	0	184.7	0	131.1	0	38.1	0	38.1	0	131.3
13	74.5	65.5	0	165.8	0	116.4	0	49.0	0	49.0	0	116.5
14	77.0	67.1	0	204.0	0	155.8	0	65.0	0	65.0	0	155.9
15	78.9	68.2	0	211.2	0	162.9	0	69.3	0	69.3	0	162.9
16	80.2	68.6	0	209.1	0	168.6	0	72.3	0	72.3	0	168.6
17	80.6	68.5	0	168.6	0	137.6	0	70.1	0	70.1	0	137.6
18	80.4	68.9	0	110.8	0	87.0	0	58.7	0	58.7	0	87.0
19	79.7	70.0	0	76.7	0	57.1	0	58.1	0	58.1	0	57.1
20	78.7	71.2	0	68.1	0	55.7	0	56.1	0	56.1	0	55.7
21	77.3	71.6	0	59.7	0	52.9	0	53.0	0	53.0	0	52.9
22	75.6	70.5	0	51.3	0	47.3	0	47.4	0	47.4	0	47.3
23	73.7	69.4	0	44.4	0	40.4	0	40.4	0	40.4	0	40.4
24	71.8	67.7	0	38.4	0	32.4	0	32.4	0	32.4	0	32.4

October			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	54.8	51.3	0	3.2	0	6.7	0	6.6	0	6.6	0	6.6
2	52.9	49.6	0	1.7	0	5.4	0	5.3	0	5.3	0	5.3
3	51.2	48.2	0	0.9	0	4.4	0	4.4	0	4.4	0	4.4
4	49.8	47.2	0	0.0	0	3.6	0	3.5	0	3.5	0	3.5
5	48.8	46.2	0	0.0	0	2.0	0	1.9	0	1.9	0	1.9
6	48.2	45.7	0	0.0	0	1.5	0	1.5	0	1.5	0	1.5
7	47.9	45.6	0	5.1	0	5.5	0	5.4	0	5.4	0	5.4
8	48.5	46.2	0	24.0	0	14.9	0	7.2	0	7.2	0	14.8
9	50.3	47.3	0	54.2	0	27.3	0	6.9	0	6.9	0	24.4
10	52.9	48.7	0	75.8	0	32.8	0	8.5	0	8.5	0	32.9
11	56.2	49.9	0	108.7	0	46.2	0	10.9	0	10.9	0	35.9
12	59.6	51.5	0	126.6	0	74.5	0	15.7	0	15.7	0	49.0
13	62.9	53.5	0	114.5	0	72.1	0	16.8	0	16.7	0	45.5
14	65.5	55.2	0	143.5	0	102.0	0	17.4	0	17.4	0	78.1
15	67.3	56.3	0	150.4	0	109.5	0	18.5	0	18.5	0	98.9
16	67.9	56.6	0	148.6	0	111.4	0	18.7	0	18.7	0	111.4
17	67.7	56.4	0	109.8	0	82.5	0	14.5	0	14.5	0	82.5
18	67.0	56.6	0	66.8	0	45.7	0	12.8	0	12.8	0	45.7
19	66.0	57.6	0	32.1	0	18.9	0	12.7	0	12.7	0	18.9
20	64.6	57.9	0	24.1	0	16.1	0	12.1	0	12.1	0	16.1
21	62.9	57.3	0	18.1	0	12.9	0	11.2	0	11.2	0	12.9
22	61.0	56.0	0	12.2	0	9.6	0	9.4	0	9.4	0	9.6
23	59.0	54.8	0	7.4	0	8.6	0	8.5	0	8.5	0	8.6
24	56.9	53.0	0	4.4	0	7.7	0	7.7	0	7.7	0	7.7

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
BLDG G101, BASELINE

November			Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	48.7	45.7	0	0.0	0	0.0	0	0.0	-116,754	0.0	-128,687	0.0
2	46.9	44.1	0	0.0	0	0.0	0	0.0	-129,770	0.0	-190,279	0.0
3	45.5	42.8	-40,246	0.0	0	0.0	0	0.0	-128,072	0.0	-219,816	0.0
4	44.6	41.9	-176,274	0.0	0	0.0	0	0.0	-149,085	0.0	-311,308	0.0
5	44.4	42.0	-182,598	0.0	0	0.0	0	0.0	-208,666	0.0	-325,406	0.0
6	44.8	42.7	-181,046	0.0	0	0.0	0	0.0	-251,400	0.0	-347,205	0.0
7	45.9	43.9	-167,527	0.0	0	0.0	-19,779	0.0	-231,691	0.0	-329,877	0.0
8	47.8	46.0	0	0.0	0	0.0	-32,468	0.0	-152,132	0.0	0	0.0
9	50.2	48.0	0	0.0	0	0.0	-26,416	0.0	-123,708	0.0	0	0.0
10	52.9	49.9	0	0.0	0	0.0	-16,942	0.0	-82,242	0.0	0	0.0
11	55.8	51.1	0	0.0	0	0.0	-8,359	0.0	-36,830	0.0	0	0.0
12	58.5	52.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	60.9	52.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	62.8	53.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	64.0	53.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	64.4	53.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	64.1	53.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	63.2	53.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	61.8	54.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	60.0	53.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	57.9	52.7	0	0.0	0	0.0	-4,433	0.0	-4,433	0.0	0	0.0
22	55.6	51.2	0	0.0	0	0.0	-21,093	0.0	-48,811	0.0	0	0.0
23	53.2	49.5	0	0.0	0	0.0	-63,794	0.0	-77,035	0.0	0	0.0
24	50.8	47.6	0	0.0	0	0.0	-90,885	0.0	-90,877	0.0	0	0.0

December			Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	37.5	35.3	0	0.0	-15,606	0.0	-22,508	0.0	-450,085	0.0	-486,611	[illegible]
2	37.1	35.1	0	0.0	-76,828	0.0	-76,824	0.0	-472,380	0.0	-511,037	[illegible]
3	37.4	35.5	0	0.0	-185,970	0.0	-143,257	0.0	-486,845	0.0	-526,921	0.[illegible]
4	38.1	36.2	-25,720	0.0	-226,214	0.0	-226,241	0.0	-481,902	0.0	-521,952	0.0
5	39.3	37.6	-91,762	0.0	-220,698	0.0	-269,550	0.0	-513,555	0.0	-513,536	0.0
6	40.9	39.2	-257,932	0.0	-214,318	0.0	-325,111	0.0	-499,859	0.0	-499,885	0.0
7	42.7	41.2	-266,568	0.0	-212,665	0.0	-317,308	0.0	-488,600	0.0	-488,599	0.0
8	44.7	43.1	-1,260	0.0	0	0.0	-294,067	0.0	-406,180	0.0	0	0.0
9	46.8	45.3	0	0.0	0	0.0	-318,485	0.0	-346,638	0.0	0	0.0
10	48.8	47.0	0	0.0	0	0.0	-254,684	0.0	-277,788	0.0	0	0.0
11	50.7	48.1	0	0.0	0	0.0	-190,578	0.0	-207,926	0.0	0	0.0
12	52.2	48.8	0	0.0	0	0.0	-130,645	0.0	-142,689	0.0	0	0.0
13	53.4	49.2	0	0.0	0	0.0	-84,547	0.0	-91,749	0.0	0	0.0
14	54.1	49.2	0	0.0	0	0.0	-47,349	0.0	-50,408	0.0	0	0.0
15	54.4	48.9	0	0.0	0	0.0	-31,685	0.0	-31,685	0.0	0	0.0
16	54.0	48.2	0	0.0	0	0.0	-37,970	0.0	-37,970	0.0	0	0.0
17	53.0	47.3	0	0.0	0	0.0	-107,060	0.0	-108,055	0.0	0	0.0
18	51.4	46.3	0	0.0	0	0.0	-126,889	0.0	-130,647	0.0	0	0.0
19	49.3	45.4	0	0.0	0	0.0	-162,447	0.0	-171,222	0.0	0	0.0
20	47.0	43.5	0	0.0	0	0.0	-210,331	0.0	-224,364	0.0	0	0.0
21	44.5	41.5	0	0.0	0	0.0	-275,119	0.0	-294,789	0.0	0	0.0
22	42.2	39.3	0	0.0	0	0.0	-326,247	0.0	-351,176	0.0	0	0.0
23	40.1	37.6	0	0.0	0	0.0	-369,415	0.0	-399,359	0.0	0	0.0
24	38.5	36.2	0	0.0	0	0.0	-405,880	0.0	-439,411	0.0	0	0.0

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MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, BASELINE

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	144,655	361	1,742	1	9
Feb	131,981	361	1,668	1	8
March	142,834	361	409	0	5
April	128,736	361	6	0	1
May	196,187	607	0	0	0
June	222,154	680	0	0	0
July	218,601	667	0	0	0
Aug	226,866	670	0	0	0
Sept	194,978	633	0	0	0
Oct	172,681	540	0	0	0
Nov	131,660	361	253	0	4
Dec	139,831	361	1,160	1	6
Total	2,051,163	680	5,238	3	9

Building Energy Consumption = 62,609 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 179,357 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, BASELINE

------------------------------------ E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ------------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S	AIR-CLD RECIP 20-35 TONS												
	ELEC	0	0	0	0	5198	9148	8958	9095	6178	1915	0	0	40,492
	PK	0.0	0.0	0.0	0.0	33.2	40.3	38.8	38.9	32.7	19.1	0.0	0.0	40.3
1	EQ5200	CONDENSER FANS												
	ELEC	0	0	0	0	626	1158	1141	1149	760	183	0	0	5,017
	PK	0.0	0.0	0.0	0.0	3.7	4.5	4.4	4.4	3.9	2.7	0.0	0.0	4.5
1	EQ5001	CHILLED WATER PUMP C.V.												
	ELEC	0	0	0	0	4008	5256	5431	5431	4599	1569	0	0	26,295
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313	CONTROLS												
	ELEC	0	0	0	0	165	216	223	223	189	65	0	0	1,081
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S	AIR-CLD RECIP <20 TONS												
	ELEC	0	0	0	0	3232	5135	5072	5238	3685	1702	0	0	24,064
	PK	0.0	0.0	0.0	0.0	18.8	22.4	22.0	22.1	19.0	12.0	0.0	0.0	22.4

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, BASELINE

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	387	646	642	657	452	159	0	0	2,943
	PK	0.0	0.0	0.0	0.0	2.1	2.5	2.5	2.5	2.2	1.7	0.0	0.0	2.5
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1569	1656	1711	1711	1656	658	0	0	8,961
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	205	216	223	223	216	86	0	0	1,169
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	6061	10762	10633	10667	7086	1861	0	0	47,069
	PK	0.0	0.0	0.0	0.0	35.4	43.0	41.6	41.6	37.0	24.4	0.0	0.0	43.0
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	731	1346	1348	1336	875	180	0	0	5,815
	PK	0.0	0.0	0.0	0.0	4.2	5.1	5.0	5.0	4.5	3.2	0.0	0.0	5.1
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	163	216	223	223	180	61	0	0	1,067
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	19622	33508	31812	32514	22418	11914	0	0	151,788
	PK	0.0	0.0	0.0	0.0	116.1	151.2	142.8	145.3	125.6	74.1	0.0	0.0	151.2
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	2204	4087	3936	3996	2647	976	0	0	17,845
	PK	0.0	0.0	0.0	0.0	14.1	18.1	17.1	17.3	15.3	10.2	0.0	0.0	18.1
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	15044	0	0	92,524
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	223	216	223	223	216	214	0	0	1,315
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,156
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371		FAN COIL SUPPLY FAN											
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,293
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, BASELINE

	ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,181
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	890	940	266	6	0	0	0	0	0	0	184	689	2,974
	PK	5.7	4.0	2.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.3	5.7
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	7744	7976	3186	84	0	0	0	0	0	0	2194	5971	27,156
	PK	21.1	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1927	1985	793	21	0	0	0	0	0	0	546	1486	6,757
	PK	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307		BOILER CONTROLS											
	ELEC	183	189	76	2	0	0	0	0	0	0	52	142	644
	PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002		GAS FIRE TUBE STEAM											
	GAS	852	729	143	0	0	0	0	0	0	0	68	471	2,264
	PK	4.4	4.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.6	4.4
2	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	734	662	202	0	0	0	0	0	0	0	161	609	2,369
	PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2[illegible]
2	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	188	170	52	0	0	0	0	0	0	0	41	156	607
	PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307		BOILER CONTROLS											
	ELEC	159	144	44	0	0	0	0	0	0	0	35	133	515
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ5061		CONDENSATE RETURN PUMP											
	ELEC	9	8	2	0	0	0	0	0	0	0	2	7	29
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406		MAKE-UP WATER											
	WATER	1	1	0	0	0	0	0	0	0	0	0	1	3
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, BASELINE

------------------------------------- U T I L I T Y   P E A K   C H E C K S U M S -------------------------------------

Utility ELECTRIC DEMAND

Peak Value 680.1 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	52.3	7.69
2	EQ1120S	AIR-CLD RECIP <20 TONS	27.5	4.04
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	48.4	7.11
4	EQ1122L	AIR-CLD RECIP >55 TONS	190.7	28.03
Sub Total			318.8	46.88
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.34
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.36
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.53
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.36
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.41
Sub Total			47.6	6.99
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	24.43
Base Utilities			0.0	0.00
Misc Equipment			147.6	21.70
Sub Total			313.7	46.13
Grand Total			680.1	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, BASELINE

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

-------------------------------------- E N E R G Y   U S E   S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,551.1	523,832.6	3.1	7.3	638,965.9	5.4
Primary Cooling						
Compressor	263,412.8	0.0	0.0	11.9	2,697,353.0	23.0
Tower/Cond Fans	31,621.0	0.0	0.0	1.4	323,800.0	2.8
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,632.0	0.0	0.0	0.2	47,431.8	0.4
Auxiliary						
Supply Fans	416,644.7	0.0	0.0	18.9	4,266,451.0	36.4
Circulation Pumps	157,303.7	0.0	0.0	7.1	1,610,793.6	13.7
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	573,948.4	0.0	0.0	26.0	5,877,245.0	50.1
Lighting	729,764.0	0.0	0.0	33.1	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	19.9	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2,051,163.1	523,832.6	3.1	100.0	21,555,360.0	181.4

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #1

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	143,472	361	1,092	1	7
Feb	129,940	361	1,022	1	6
March	141,114	361	190	0	3
April	128,629	361	0	0	0
May	194,990	592	0	0	0
June	216,860	658	0	0	0
July	213,780	647	0	0	0
Aug	222,424	651	0	0	0
Sept	192,762	615	0	0	0
Oct	175,877	533	0	0	0
Nov	130,522	361	115	0	3
Dec	138,163	361	633	0	4
Total	2,028,532	658	3,052	2	7

Building Energy Consumption = 60,147 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 175,513 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #1

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	4915	8372	8286	8481	5807	2193	0	0	38,054
	PK	0.0	0.0	0.0	0.0	30.3	36.8	35.9	35.9	29.9	18.3	0.0	0.0	36.8
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	585	1046	1039	1055	706	206	0	0	4,637
	PK	0.0	0.0	0.0	0.0	3.4	4.1	4.1	4.1	3.6	2.6	0.0	0.0	4.1
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	4300	5256	5431	5431	4818	1606	0	0	26,842
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	177	216	223	223	198	66	0	0	1,103
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3149	4832	4790	4992	3539	1878	0	0	23,180
	PK	0.0	0.0	0.0	0.0	17.5	20.8	20.6	20.7	17.7	11.6	0.0	0.0	20.8

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #1

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	370	600	596	616	428	171	0	0	2,781
	PK	0.0	0.0	0.0	0.0	1.9	2.3	2.3	2.3	2.1	1.6	0.0	0.0	2.3
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1640	1656	1711	1711	1656	842	0	0	9,216
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	214	216	223	223	216	110	0	0	1,202
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	5635	9289	9268	9434	6420	2537	0	0	42,582
	PK	0.0	0.0	0.0	0.0	31.1	37.7	36.7	36.7	32.4	22.2	0.0	0.0	37.7
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	669	1164	1177	1182	785	229	0	0	5,206
	PK	0.0	0.0	0.0	0.0	3.7	4.5	4.4	4.4	3.9	2.9	0.0	0.0	4.5
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	175	216	223	223	195	76	0	0	1,109
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	19020	31367	29872	30682	21433	12901	0	0	145,276
	PK	0.0	0.0	0.0	0.0	108.8	141.5	133.9	136.9	117.9	70.9	0.0	0.0	141.5
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	2126	3824	3691	3768	2524	1046	0	0	16,980
	PK	0.0	0.0	0.0	0.0	13.2	17.0	16.0	16.3	14.3	9.8	0.0	0.0	17.0
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	15698	0	0	93,178
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	223	216	223	223	216	223	0	0	1,325
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,155
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371		FAN COIL SUPPLY FAN											
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #1

	ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,182
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003	FC CENTRIF. FAN C.V.												
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001	GAS FIRE TUBE HOT WATER												
	GAS	665	665	161	0	0	0	0	0	0	0	109	473	2,073
	PK	4.8	3.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.8	4.8
1	EQ5020	HEAT WATER CIRC. PUMP C.V.												
	ELEC	7005	6562	1941	0	0	0	0	0	0	0	1456	4937	21,902
	PK	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240	BOILER FORCED DRAFT FAN												
	ELEC	1743	1633	483	0	0	0	0	0	0	0	362	1228	5,450
	PK	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307	BOILER CONTROLS												
	ELEC	166	156	46	0	0	0	0	0	0	0	35	117	519
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002	GAS FIRE TUBE STEAM												
	GAS	427	357	28	0	0	0	0	0	0	0	7	161	979
	PK	3.1	3.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.2	3.1
2	EQ5020	HEAT WATER CIRC. PUMP C.V.												
	ELEC	570	499	110	0	0	0	0	0	0	0	28	373	1,580
	PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2[illegible]
2	EQ5240	BOILER FORCED DRAFT FAN												
	ELEC	146	128	28	0	0	0	0	0	0	0	7	96	405
	PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307	BOILER CONTROLS												
	ELEC	124	108	24	0	0	0	0	0	0	0	6	81	344
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ5061	CONDENSATE RETURN PUMP												
	ELEC	7	6	1	0	0	0	0	0	0	0	0	4	19
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406	MAKE-UP WATER												
	WATER	1	1	0	0	0	0	0	0	0	0	0	0	2
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #1

------- U T I L I T Y   P E A K   C H E C K S U M S -------

Utility ELECTRIC DEMAND

Peak Value 657.9 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	48.5	7.37
2	EQ1120S	AIR-CLD RECIP <20 TONS	25.8	3.92
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	42.5	6.46
4	EQ1122L	AIR-CLD RECIP >55 TONS	179.9	27.34
Sub Total			296.7	45.09
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.45
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.37
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.54
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.41
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.46
Sub Total			47.6	7.23
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	25.25
Base Utilities			0.0	0.00
Misc Equipment			147.6	22.43
Sub Total			313.7	47.68
Grand Total			657.9	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #1

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

-------------------------------------- E N E R G Y   U S E   S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	6,736.1	305,157.1	2.1	4.5	390,195.8	3.3
Primary Cooling						
Compressor	249,092.3	0.0	0.0	11.8	2,550,711.3	21.8
Tower/Cond Fans	29,602.4	0.0	0.0	1.4	303,129.0	2.6
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,738.8	0.0	0.0	0.2	48,525.4	0.4
Auxiliary						
Supply Fans	416,647.3	0.0	0.0	19.7	4,266,477.5	36.4
Circulation Pumps	152,717.8	0.0	0.0	7.2	1,563,833.9	13.3
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	569,365.1	0.0	0.0	26.9	5,830,311.5	49.7
Lighting	729,764.0	0.0	0.0	34.5	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	20.7	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2,028,532.6	305,157.1	2.1	100.0	21,093,440.0	177.4

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #2

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	143,178	361	1,417	1	8
Feb	130,114	361	1,300	1	7
March	141,196	361	267	0	5
April	128,629	361	0	0	0
May	196,672	599	0	0	0
June	220,702	668	0	0	0
July	217,685	657	0	0	0
Aug	225,859	661	0	0	0
Sept	194,945	624	0	0	0
Oct	175,221	536	0	0	0
Nov	130,386	361	146	0	4
Dec	138,721	361	883	1	6
Total	2,043,306	668	4,012	3	8

Building Energy Consumption = 61,365 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 177,613 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #2

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0[illegible]
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	5230	8941	8840	8949	6153	2095	0	0	40,207
	PK	0.0	0.0	0.0	0.0	31.8	38.7	37.6	37.7	31.4	18.8	0.0	0.0	38.7
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	625	1128	1123	1128	753	198	0	0	4,955
	PK	0.0	0.0	0.0	0.0	3.5	4.3	4.3	4.3	3.8	2.7	0.0	0.0	4.3
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	4300	5256	5431	5431	4818	1730	0	0	26,966
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	177	216	223	223	198	71	0	0	1,108
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3241	5117	5054	5236	3693	1735	0	0	24,075
	PK	0.0	0.0	0.0	0.0	18.6	22.2	21.9	22.1	19.0	12.0	0.0	0.0	22.2

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #2

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	387	643	639	656	452	161	0	0	2,938
	PK	0.0	0.0	0.0	0.0	2.1	2.5	2.5	2.5	2.2	1.7	0.0	0.0	2.5
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1598	1656	1711	1711	1656	658	0	0	8,991
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	208	216	223	223	216	86	0	0	1,173
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	6062	10762	10633	10668	7088	1862	0	0	47,075
	PK	0.0	0.0	0.0	0.0	35.2	43.0	41.6	41.6	37.0	24.4	0.0	0.0	43.0
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	731	1346	1348	1336	875	180	0	0	5,816
	PK	0.0	0.0	0.0	0.0	4.2	5.0	5.0	5.0	4.5	3.2	0.0	0.0	5.0
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	163	216	223	223	180	61	0	0	1,067
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	19728	32444	31136	31769	22214	13292	0	0	150,583
	PK	0.0	0.0	0.0	0.0	109.7	142.4	135.0	137.9	118.7	71.1	0.0	0.0	142.4
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	2204	3955	3852	3904	2613	1075	0	0	17,603
	PK	0.0	0.0	0.0	0.0	13.3	17.1	16.1	16.4	14.4	9.9	0.0	0.0	17.1
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	15698	0	0	93,178
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	223	216	223	223	216	223	0	0	1,325
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,155
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371		FAN COIL SUPPLY FAN											
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #2

	ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,182
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003	FC CENTRIF. FAN C.V.												
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001	GAS FIRE TUBE HOT WATER												
	GAS	674	670	152	0	0	0	0	0	0	0	109	473	2,079
	PK	4.9	3.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.8	4.9
1	EQ5020	HEAT WATER CIRC. PUMP C.V.												
	ELEC	6583	6562	1941	0	0	0	0	0	0	0	1308	5170	21,564
	PK	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240	BOILER FORCED DRAFT FAN												
	ELEC	1638	1633	483	0	0	0	0	0	0	0	326	1286	5,365
	PK	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307	BOILER CONTROLS												
	ELEC	156	156	46	0	0	0	0	0	0	0	31	123	511
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002	GAS FIRE TUBE STEAM												
	GAS	743	629	115	0	0	0	0	0	0	0	36	410	1,933
	PK	4.1	4.1	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.3	4.1
2	EQ5020	HEAT WATER CIRC. PUMP C.V.												
	ELEC	734	616	166	0	0	0	0	0	0	0	62	550	2,127
	PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.[illegible]
2	EQ5240	BOILER FORCED DRAFT FAN												
	ELEC	188	158	42	0	0	0	0	0	0	0	16	141	545
	PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307	BOILER CONTROLS												
	ELEC	159	134	36	0	0	0	0	0	0	0	14	119	463
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ5061	CONDENSATE RETURN PUMP												
	ELEC	9	7	2	0	0	0	0	0	0	0	1	7	26
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406	MAKE-UP WATER												
	WATER	1	1	0	0	0	0	0	0	0	0	0	1	3
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #2

-- U T I L I T Y   P E A K   C H E C K S U M S --

Utility ELECTRIC DEMAND

Peak Value 668.4 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	50.6	7.57
2	EQ1120S	AIR-CLD RECIP <20 TONS	27.3	4.09
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	48.3	7.23
4	EQ1122L	AIR-CLD RECIP >55 TONS	180.9	27.06
Sub Total			307.1	45.95
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.40
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.36
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.53
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.39
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.44
Sub Total			47.6	7.12
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	24.86
Base Utilities			0.0	0.00
Misc Equipment			147.6	22.08
Sub Total			313.7	46.94
Grand Total			668.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #2

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

-------------------------------------- E N E R G Y   U S E   S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	6,910.0	401,179.3	2.8	5.8	493,052.7	4.2
Primary Cooling						
Compressor	261,940.2	0.0	0.0	12.1	2,682,274.0	22.9
Tower/Cond Fans	31,311.7	0.0	0.0	1.4	320,632.7	2.7
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,672.8	0.0	0.0	0.2	47,849.6	0.4
Auxiliary						
Supply Fans	416,647.3	0.0	0.0	19.3	4,266,477.5	36.4
Circulation Pumps	152,826.3	0.0	0.0	7.1	1,564,945.0	13.3
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	569,473.6	0.0	0.0	26.4	5,831,422.5	49.7
Lighting	729,764.0	0.0	0.0	33.8	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	20.3	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2,043,306.1	401,179.3	2.8	100.0	21,345,796.0	179.6

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #3

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	144,547	361	1,712	1	9
Feb	131,981	361	1,615	1	7
March	142,217	361	367	0	5
April	128,629	361	0	0	0
May	196,364	606	0	0	0
June	221,874	677	0	0	0
July	218,308	665	0	0	0
Aug	226,582	668	0	0	0
Sept	195,025	632	0	0	0
Oct	172,892	540	0	0	0
Nov	131,580	361	240	0	4
Dec	139,831	361	1,117	1	6
Total	2,049,830	677	5,052	3	9

Building Energy Consumption = 62,416 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 179,079 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #3

---------- E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ----------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	5199	9152	8961	9099	6179	1914	0	0	40,504
	PK	0.0	0.0	0.0	0.0	33.1	40.4	38.9	39.0	32.8	19.2	0.0	0.0	40.4
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	626	1158	1141	1149	760	183	0	0	5,018
	PK	0.0	0.0	0.0	0.0	3.7	4.5	4.4	4.4	3.9	2.7	0.0	0.0	4.5
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	4008	5256	5431	5431	4599	1569	0	0	26,295
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	165	216	223	223	189	65	0	0	1,081
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3235	5140	5076	5242	3688	1702	0	0	24,084
	PK	0.0	0.0	0.0	0.0	18.8	22.4	22.0	22.2	19.0	12.0	0.0	0.0	22.4

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #3

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	387	647	642	657	452	159	0	0	2,943
	PK	0.0	0.0	0.0	0.0	2.1	2.5	2.5	2.5	2.2	1.7	0.0	0.0	2.5
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1569	1656	1711	1711	1656	658	0	0	8,961
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	205	216	223	223	216	86	0	0	1,169
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	6062	10762	10633	10668	7088	1862	0	0	47,075
	PK	0.0	0.0	0.0	0.0	35.2	43.0	41.6	41.6	37.0	24.4	0.0	0.0	43.0
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	731	1346	1348	1336	875	180	0	0	5,816
	PK	0.0	0.0	0.0	0.0	4.2	5.0	5.0	5.0	4.5	3.2	0.0	0.0	5.0
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	163	216	223	223	180	61	0	0	1,067
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	19778	33249	31542	32253	22455	12109	0	0	151,385
	PK	0.0	0.0	0.0	0.0	113.7	148.8	140.5	143.0	124.1	73.9	0.0	0.0	148.8
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	2221	4056	3903	3964	2651	992	0	0	17,787
	PK	0.0	0.0	0.0	0.0	13.8	17.7	16.8	17.1	15.1	10.2	0.0	0.0	17.7
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	15044	0	0	92,524
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	223	216	223	223	216	214	0	0	1,315
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,155
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371		FAN COIL SUPPLY FAN											
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #3

	ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,182
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003			FC CENTRIF. FAN C.V.										
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001			GAS FIRE TUBE HOT WATER										
	GAS	860	886	224	0	0	0	0	0	0	0	172	646	2,788
	PK	5.4	3.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	3.4	5.4
1	EQ5020			HEAT WATER CIRC. PUMP C.V.										
	ELEC	7659	7976	2701	0	0	0	0	0	0	0	2131	5971	26,438
	PK	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240			BOILER FORCED DRAFT FAN										
	ELEC	1906	1985	672	0	0	0	0	0	0	0	530	1486	6,578
	PK	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307			BOILER CONTROLS										
	ELEC	182	189	64	0	0	0	0	0	0	0	51	142	627
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002			GAS FIRE TUBE STEAM										
	GAS	852	729	143	0	0	0	0	0	0	0	68	471	2,264
	PK	4.4	4.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.6	4.4
2	EQ5020			HEAT WATER CIRC. PUMP C.V.										
	ELEC	734	662	202	0	0	0	0	0	0	0	161	609	2,369
	PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.[illegible]
2	EQ5240			BOILER FORCED DRAFT FAN										
	ELEC	188	170	52	0	0	0	0	0	0	0	41	156	607
	PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307			BOILER CONTROLS										
	ELEC	159	144	44	0	0	0	0	0	0	0	35	133	515
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ5061			CONDENSATE RETURN PUMP										
	ELEC	9	8	2	0	0	0	0	0	0	0	2	7	29
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406			MAKE-UP WATER										
	WATER	1	1	0	0	0	0	0	0	0	0	0	1	3
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #3

------------------------------ U T I L I T Y   P E A K   C H E C K S U M S ------------------------------

Utility ELECTRIC DEMAND

Peak Value 677.4 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	52.4	7.73
2	EQ1120S	AIR-CLD RECIP <20 TONS	27.5	4.06
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	48.3	7.13
4	EQ1122L	AIR-CLD RECIP >55 TONS	187.9	27.74
Sub Total			316.1	46.67
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.35
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.36
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.53
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.37
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.42
Sub Total			47.6	7.02
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	24.53
Base Utilities			0.0	0.00
Misc Equipment			147.6	21.78
Sub Total			313.7	46.31
Grand Total			677.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #3

CALIFORNIA TITLE 24 COMPLIANCE REPORT

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

E N E R G Y   U S E   S U M M A R Y

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,355.6	505,157.9	3.1	7.1	617,306.6	5.3
Primary Cooling						
Compressor	263,047.7	0.0	0.0	12.0	2,693,614.5	23.0
Tower/Cond Fans	31,563.6	0.0	0.0	1.4	323,212.2	2.8
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,632.0	0.0	0.0	0.2	47,431.8	0.4
Auxiliary						
Supply Fans	416,647.3	0.0	0.0	19.0	4,266,477.5	36.4
Circulation Pumps	156,586.3	0.0	0.0	7.1	1,603,447.4	13.7
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	573,233.6	0.0	0.0	26.1	5,869,925.0	50.1
Lighting	729,764.0	0.0	0.0	33.2	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	20.0	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2,049,830.4	505,157.9	3.1	100.0	21,522,058.0	181.1

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #6

----------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N -----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	145,103	361	2,322	1	10
Feb	132,515	361	2,247	1	9
March	143,330	361	649	1	6
April	128,791	365	10	0	2
May	195,258	607	0	0	0
June	222,159	680	0	0	0
July	218,605	667	0	0	0
Aug	226,869	671	0	0	0
Sept	194,981	633	0	0	0
Oct	170,947	540	0	0	0
Nov	132,043	361	440	1	5
Dec	140,306	361	1,655	1	7
Total	2,050,904	680	7,324	5	10

Building Energy Consumption = 64,337 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 181,161 (Btu/Sq Ft/Year)

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #6

------------------------------------ E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ------------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0[illegible]
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	4981	9153	8962	9099	6179	1519	0	0	39,893
	PK	0.0	0.0	0.0	0.0	29.6	40.4	38.9	39.0	32.8	19.2	0.0	0.0	40.4
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	609	1158	1141	1149	760	153	0	0	4,971
	PK	0.0	0.0	0.0	0.0	3.7	4.5	4.4	4.4	3.9	2.7	0.0	0.0	4.5
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	3847	5256	5431	5431	4599	1285	0	0	25,849
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	158	216	223	223	189	53	0	0	1,062
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3047	5140	5076	5242	3688	1095	0	0	23,288
	PK	0.0	0.0	0.0	0.0	18.8	22.4	22.0	22.2	19.0	12.0	0.0	0.0	22.4

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #6

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	371	647	642	657	452	113	0	0	2,882
	PK	0.0	0.0	0.0	0.0	2.1	2.5	2.5	2.5	2.2	1.7	0.0	0.0	2.5
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1355	1656	1711	1711	1656	455	0	0	8,544
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	177	216	223	223	216	59	0	0	1,114
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	5992	10762	10633	10668	7088	1747	0	0	46,890
	PK	0.0	0.0	0.0	0.0	34.6	43.0	41.6	41.6	37.0	24.4	0.0	0.0	43.0
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	725	1346	1348	1336	875	170	0	0	5,800
	PK	0.0	0.0	0.0	0.0	4.2	5.0	5.0	5.0	4.5	3.2	0.0	0.0	5.0
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	157	216	223	223	180	56	0	0	1,055
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	19619	33502	31806	32508	22415	11912	0	0	151,762
	PK	0.0	0.0	0.0	0.0	115.8	151.1	142.8	145.3	125.5	74.1	0.0	0.0	151.1
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	2204	4086	3936	3996	2647	976	0	0	17,845
	PK	0.0	0.0	0.0	0.0	14.0	18.1	17.1	17.3	15.3	10.2	0.0	0.0	18.1
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	15044	0	0	92,524
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	223	216	223	223	216	214	0	0	1,315
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,155
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371		FAN COIL SUPPLY FAN											
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #6

ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,182
PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5 EQ4003			FC CENTRIF. FAN C.V.										
ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1 EQ2001			GAS FIRE TUBE HOT WATER										
GAS	890	940	266	6	0	0	0	0	0	0	184	689	2,975
PK	5.7	4.0	2.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.3	5.7
1 EQ5020			HEAT WATER CIRC. PUMP C.V.										
ELEC	7744	7976	3186	84	0	0	0	0	0	0	2194	5971	27,156
PK	21.1	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1 EQ5240			BOILER FORCED DRAFT FAN										
ELEC	1927	1985	793	21	0	0	0	0	0	0	546	1486	6,757
PK	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1 EQ5307			BOILER CONTROLS										
ELEC	183	189	76	2	0	0	0	0	0	0	52	142	644
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2 EQ2002			GAS FIRE TUBE STEAM										
GAS	1432	1307	383	5	0	0	0	0	0	0	256	966	4,349
PK	5.4	5.5	3.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	3.1	4.5	5.5
2 EQ5020			HEAT WATER CIRC. PUMP C.V.										
ELEC	1035	1021	536	37	0	0	0	0	0	0	419	929	3,977
PK	2.3	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2[illegible]
2 EQ5240			BOILER FORCED DRAFT FAN										
ELEC	265	262	137	9	0	0	0	0	0	0	107	238	1,019
PK	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2 EQ5307			BOILER CONTROLS										
ELEC	225	222	117	8	0	0	0	0	0	0	91	202	865
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2 EQ5061			CONDENSATE RETURN PUMP										
ELEC	12	12	6	0	0	0	0	0	0	0	5	11	48
PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 EQ5406			MAKE-UP WATER										
WATER	1	1	1	0	0	0	0	0	0	0	1	1	5
PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #6

--------------------------------------- U T I L I T Y   P E A K   C H E C K S U M S ---------------------------------------

Utility ELECTRIC DEMAND

Peak Value 680.1 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	52.4	7.70
2	EQ1120S	AIR-CLD RECIP <20 TONS	27.5	4.05
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	48.3	7.10
4	EQ1122L	AIR-CLD RECIP >55 TONS	190.6	28.03
Sub Total			318.8	46.88
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.34
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.36
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.53
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.36
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.41
Sub Total			47.6	6.99
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	24.43
Base Utilities			0.0	0.00
Misc Equipment			147.6	21.70
Sub Total			313.7	46.13
Grand Total			680.1	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #6

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

-------------------------------------- E N E R G Y U S E S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	9,332.1	732,370.8	5.3	9.9	866,477.4	7.4
Primary Cooling						
Compressor	261,833.2	0.0	0.0	11.6	2,681,178.3	22.9
Tower/Cond Fans	31,497.1	0.0	0.0	1.4	322,531.4	2.8
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,547.7	0.0	0.0	0.2	46,568.5	0.4
Auxiliary						
Supply Fans	416,647.3	0.0	0.0	18.4	4,266,477.5	36.4
Circulation Pumps	158,049.8	0.0	0.0	7.0	1,618,433.7	13.8
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	574,697.1	0.0	0.0	25.4	5,884,911.5	50.2
Lighting	729,764.0	0.0	0.0	32.2	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	19.4	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2,050,905.1	732,370.8	5.3	100.0	21,772,232.0	183.2

^R

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #7

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	131,091	392	1,021	1	13
Feb	118,424	392	905	1	14
March	134,239	388	246	0	11
April	123,129	361	18	0	4
May	188,817	613	0	0	0
June	211,427	679	0	0	0
July	206,155	667	0	0	0
Aug	216,005	670	0	0	0
Sept	186,013	633	0	0	0
Oct	167,093	540	0	0	0
Nov	123,582	388	119	0	8
Dec	127,646	392	595	1	13
Total	1,933,622	679	2,904	3	14

Building Energy Consumption = 57,328 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 167,297 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #7

------------------------------------ E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ------------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.[illegible]
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	5199	9152	8961	9099	6179	1914	0	0	40,504
	PK	0.0	0.0	0.0	0.0	33.1	40.4	38.9	39.0	32.8	19.2	0.0	0.0	40.4
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	626	1158	1141	1149	760	183	0	0	5,018
	PK	0.0	0.0	0.0	0.0	3.7	4.5	4.4	4.4	3.9	2.7	0.0	0.0	4.5
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	4008	5256	5431	5431	4599	1569	0	0	26,295
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	165	216	223	223	189	65	0	0	1,081
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3235	5140	5076	5242	3688	1702	0	0	24,084
	PK	0.0	0.0	0.0	0.0	18.8	22.4	22.0	22.2	19.0	12.0	0.0	0.0	22.4

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #7

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	387	647	642	657	452	159	0	0	2,943
	PK	0.0	0.0	0.0	0.0	2.1	2.5	2.5	2.5	2.2	1.7	0.0	0.0	2.5
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1569	1656	1711	1711	1656	658	0	0	8,961
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	205	216	223	223	216	86	0	0	1,169
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	5299	8166	7390	7967	5414	2056	0	0	36,291
	PK	0.0	0.0	0.0	0.0	39.7	43.0	41.6	41.6	37.0	24.4	0.0	0.0	43.0
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	568	989	908	954	610	190	0	0	4,219
	PK	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	4.5	3.2	0.0	0.0	5.0
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	79	79	72	83	72	52	0	0	437
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	18952	31453	29399	30591	21259	11751	0	0	143,406
	PK	0.0	0.0	0.0	0.0	110.0	150.8	142.5	145.0	125.2	73.9	0.0	0.0	150.8
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	2117	3821	3617	3739	2489	963	0	0	16,746
	PK	0.0	0.0	0.0	0.0	13.6	17.5	17.1	17.3	15.2	10.2	0.0	0.0	17.5
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	15044	0	0	92,524
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	223	216	223	223	216	214	0	0	1,315
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	609	551	667	580	638	638	580	667	580	638	580	580	7,303
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371		FAN COIL SUPPLY FAN											
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #7

	ELEC	2335	2113	2558	2224	2447	2447	2224	2558	2224	2447	2224	2224	28,024
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003			FC CENTRIF. FAN C.V.										
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001			GAS FIRE TUBE HOT WATER										
	GAS	477	444	157	18	0	0	0	0	0	0	69	315	1,481
	PK	9.0	8.4	7.3	4.4	0.0	0.0	0.0	0.0	0.0	0.0	7.3	7.3	9.0
1	EQ5020			HEAT WATER CIRC. PUMP C.V.										
	ELEC	1583	1393	739	84	0	0	0	0	0	0	253	1034	5,085
	PK	21.1	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240			BOILER FORCED DRAFT FAN										
	ELEC	394	347	184	21	0	0	0	0	0	0	63	257	1,265
	PK	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307			BOILER CONTROLS										
	ELEC	38	33	18	2	0	0	0	0	0	0	6	25	120
	PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002			GAS FIRE TUBE STEAM										
	GAS	544	461	88	0	0	0	0	0	0	0	49	280	1,423
	PK	5.8	5.9	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.2	5.9
2	EQ5020			HEAT WATER CIRC. PUMP C.V.										
	ELEC	750	667	193	0	0	0	0	0	0	0	161	600	2,371
	PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2[illegible]
2	EQ5240			BOILER FORCED DRAFT FAN										
	ELEC	192	171	50	0	0	0	0	0	0	0	41	154	608
	PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307			BOILER CONTROLS										
	ELEC	163	145	42	0	0	0	0	0	0	0	35	131	516
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ5061			CONDENSATE RETURN PUMP										
	ELEC	9	8	2	0	0	0	0	0	0	0	2	7	29
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406			MAKE-UP WATER										
	WATER	1	1	0	0	0	0	0	0	0	0	0	1	3
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #7

U T I L I T Y   P E A K   C H E C K S U M S

Utility ELECTRIC DEMAND

Peak Value 679.2 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	52.4	7.71
2	EQ1120S	AIR-CLD RECIP <20 TONS	27.5	4.05
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	48.3	7.11
4	EQ1122L	AIR-CLD RECIP >55 TONS	189.7	27.93
Sub Total			317.9	46.81
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.34
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.36
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.53
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.36
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.41
Sub Total			47.6	7.00
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	24.46
Base Utilities			0.0	0.00
Misc Equipment			147.6	21.73
Sub Total			313.7	46.19
Grand Total			679.2	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #7

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

--------------------------------------- E N E R G Y U S E S U M M A R Y ---------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	2,537.7	290,369.6	3.1	4.3	331,638.3	2.8
Primary Cooling						
Compressor	244,284.7	0.0	0.0	12.1	2,501,481.0	21.3
Tower/Cond Fans	28,926.5	0.0	0.0	1.4	296,208.3	2.5
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,002.0	0.0	0.0	0.2	40,980.6	0.3
Auxiliary						
Supply Fans	349,637.5	0.0	0.0	17.3	3,580,296.2	30.5
Circulation Pumps	135,235.4	0.0	0.0	6.7	1,384,813.6	11.8
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	484,872.9	0.0	0.0	24.0	4,965,109.5	42.3
Lighting	729,764.0	0.0	0.0	36.2	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	21.8	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	1,933,621.6	290,369.6	3.1	100.0	20,105,984.0	169.0

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #12

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	130,442	392	822	1	12
Feb	118,332	392	743	1	13
March	133,540	388	130	0	8
April	123,021	361	0	0	0
May	175,694	530	0	0	0
June	194,215	625	0	0	0
July	189,689	610	0	0	0
Aug	197,836	613	0	0	0
Sept	171,863	586	0	0	0
Oct	159,907	489	0	0	0
Nov	123,352	361	73	0	8
Dec	127,415	392	448	1	11
Total	1,845,306	625	2,215	3	13

Building Energy Consumption = 54,247 (Btu/Sq Ft/Year) Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 159,169 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #12

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.[illegible]
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	4514	8304	8069	8198	5376	1561	0	0	36,022
	PK	0.0	0.0	0.0	0.0	31.7	38.8	37.3	37.4	31.3	18.5	0.0	0.0	38.8
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	550	1052	1029	1038	668	154	0	0	4,491
	PK	0.0	0.0	0.0	0.0	3.5	4.3	4.2	4.3	3.7	2.6	0.0	0.0	4.3
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	3876	5256	5431	5431	4088	1212	0	0	25,295
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	159	216	223	223	168	50	0	0	1,039
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	2916	4767	4683	4847	3328	1555	0	0	22,096
	PK	0.0	0.0	0.0	0.0	18.1	21.7	21.3	21.4	18.4	11.8	0.0	0.0	21.7

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #12

2 EQ5200		CONDENSER FANS											
ELEC	0	0	0	0	352	600	592	608	411	147	0	0	2,709
PK	0.0	0.0	0.0	0.0	2.0	2.4	2.4	2.4	2.2	1.6	0.0	0.0	2.4
2 EQ5001		CHILLED WATER PUMP C.V.											
ELEC	0	0	0	0	1313	1656	1711	1711	1587	596	0	0	8,574
PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2 EQ5313		CONTROLS											
ELEC	0	0	0	0	171	216	223	223	207	78	0	0	1,118
PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3 EQ1171L		AIR-CLD COND COMP 35-60 TONS											
ELEC	0	0	0	0	1031	3280	2548	2697	1315	0	0	0	10,871
PK	0.0	0.0	0.0	0.0	14.9	29.4	27.2	27.2	24.8	15.8	0.0	0.0	29.4
3 EQ5200		CONDENSER FANS											
ELEC	0	0	0	0	136	407	324	340	169	0	0	0	1,375
PK	0.0	0.0	0.0	0.0	1.9	3.4	3.3	3.3	3.0	2.1	0.0	0.0	3.4
3 EQ5313		CONTROLS											
ELEC	0	0	0	0	27	69	56	63	34	0	0	0	248
PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4 EQ1122L		AIR-CLD RECIP >55 TONS											
ELEC	0	0	0	0	12857	22253	20909	20999	14440	8784	0	0	100,241
PK	0.0	0.0	0.0	0.0	77.9	118.8	108.8	111.0	97.9	39.5	0.0	0.0	118.8
4 EQ5200		CONDENSER FANS											
ELEC	0	0	0	0	1382	2661	2531	2525	1642	689	0	0	11,430
PK	0.0	0.0	0.0	0.0	9.7	13.6	13.0	13.2	11.9	5.3	0.0	0.0	13.6
4 EQ5001		CHILLED WATER PUMP C.V.											
ELEC	0	0	0	0	15698	15192	15698	15698	15192	14390	0	0	91,869
PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4 EQ5313		CONTROLS											
ELEC	0	0	0	0	223	216	223	223	216	205	0	0	1,306
PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1 EQ4003		FC CENTRIF. FAN C.V.											
ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2 EQ4003		FC CENTRIF. FAN C.V.											
ELEC	609	551	667	580	638	638	580	667	580	638	580	580	7,303
PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3 EQ4371		FAN COIL SUPPLY FAN											
ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4 EQ4371		FAN COIL SUPPLY FAN											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #12

ELEC	2335	2113	2558	2224	2447	2447	2224	2558	2224	2447	2224	2224	28,024
PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5 EQ4003		FC CENTRIF. FAN C.V.											
ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1 EQ2001		GAS FIRE TUBE HOT WATER											
GAS	380	373	83	0	0	0	0	0	0	0	56	244	1,137
PK	8.4	7.3	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	8.4
1 EQ5020		HEAT WATER CIRC. PUMP C.V.											
ELEC	1139	1393	253	0	0	0	0	0	0	0	169	971	3,925
PK	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1 EQ5240		BOILER FORCED DRAFT FAN											
ELEC	283	347	63	0	0	0	0	0	0	0	42	242	976
PK	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1 EQ5307		BOILER CONTROLS											
ELEC	27	33	6	0	0	0	0	0	0	0	4	23	93
PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2 EQ2002		GAS FIRE TUBE STEAM											
GAS	441	370	47	0	0	0	0	0	0	0	17	203	1,078
PK	5.4	5.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.4	5.5
2 EQ5020		HEAT WATER CIRC. PUMP C.V.											
ELEC	692	605	138	0	0	0	0	0	0	0	78	499	2,013
PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.[illegible]
2 EQ5240		BOILER FORCED DRAFT FAN											
ELEC	177	155	35	0	0	0	0	0	0	0	20	128	516
PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2 EQ5307		BOILER CONTROLS											
ELEC	150	132	30	0	0	0	0	0	0	0	17	108	438
PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2 EQ5061		CONDENSATE RETURN PUMP											
ELEC	8	7	2	0	0	0	0	0	0	0	1	6	24
PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 EQ5406		MAKE-UP WATER											
WATER	1	1	0	0	0	0	0	0	0	0	0	1	3
PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #12

U T I L I T Y   P E A K   C H E C K S U M S

Utility ELECTRIC DEMAND

Peak Value 625.0 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	50.6	8.10
2	EQ1120S	AIR-CLD RECIP <20 TONS	26.7	4.28
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	32.6	5.22
4	EQ1122L	AIR-CLD RECIP >55 TONS	153.8	24.60
Sub Total			263.8	42.20
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.63
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.39
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.57
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.48
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.53
Sub Total			47.6	7.61
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	26.58
Base Utilities			0.0	0.00
Misc Equipment			147.6	23.61
Sub Total			313.7	50.19
Grand Total			625.0	100.00

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CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #12

---------- CALIFORNIA TITLE 24 COMPLIANCE REPORT ----------

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

---------- ENERGY USE SUMMARY ----------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	2,047.1	221,515.1	2.7	3.5	254,136.7	2.2
Primary Cooling						
Compressor	169,230.7	0.0	0.0	8.9	1,732,926.5	14.8
Tower/Cond Fans	20,005.4	0.0	0.0	1.0	204,855.4	1.7
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	3,712.2	0.0	0.0	0.2	38,013.0	0.3
Auxiliary						
Supply Fans	349,637.5	0.0	0.0	18.3	3,580,296.2	30.5
Circulation Pumps	131,675.5	0.0	0.0	6.9	1,348,360.3	11.5
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	481,313.0	0.0	0.0	25.2	4,928,656.5	42.0
Lighting	729,764.0	0.0	0.0	38.2	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	23.0	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	1,845,306.4	221,515.1	2.7	100.0	19,129,154.0	160.7

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #13

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	149,276	361	2,067	1	10
Feb	136,359	361	2,007	1	9
March	147,508	361	521	1	6
April	132,896	361	10	0	2
May	200,914	561	0	0	0
June	225,132	630	0	0	0
July	221,997	623	0	0	0
Aug	230,656	621	0	0	0
Sept	199,198	594	0	0	0
Oct	175,731	512	0	0	0
Nov	135,975	361	319	0	5
Dec	144,562	361	1,413	1	7
Total	2,100,206	630	6,336	5	10

Building Energy Consumption = 64,915 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 184,497 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #13

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	61547	55625	63698	59214	62622	61366	60471	63698	59214	62622	59214	60471	729,764
	PK	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	5199	9152	8961	9099	6179	1914	0	0	40,504
	PK	0.0	0.0	0.0	0.0	33.1	40.4	38.9	39.0	32.8	19.2	0.0	0.0	40.4
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	626	1158	1141	1149	760	183	0	0	5,018
	PK	0.0	0.0	0.0	0.0	3.7	4.5	4.4	4.4	3.9	2.7	0.0	0.0	4.5
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	4008	5256	5431	5431	4599	1569	0	0	26,295
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	165	216	223	223	189	65	0	0	1,081
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3235	5140	5076	5242	3688	1702	0	0	24,084
	PK	0.0	0.0	0.0	0.0	18.8	22.4	22.0	22.2	19.0	12.0	0.0	0.0	22.4

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #13

2	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	387	647	642	657	452	159	0	0	2,943
	PK	0.0	0.0	0.0	0.0	2.1	2.5	2.5	2.5	2.2	1.7	0.0	0.0	2.5
2	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	1569	1656	1711	1711	1656	658	0	0	8,961
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313		CONTROLS											
	ELEC	0	0	0	0	205	216	223	223	216	86	0	0	1,169
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L		AIR-CLD COND COMP 35-60 TONS											
	ELEC	0	0	0	0	6062	10762	10633	10668	7088	1862	0	0	47,075
	PK	0.0	0.0	0.0	0.0	35.2	43.0	41.6	41.6	37.0	24.4	0.0	0.0	43.0
3	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	731	1346	1348	1336	875	180	0	0	5,816
	PK	0.0	0.0	0.0	0.0	4.2	5.0	5.0	5.0	4.5	3.2	0.0	0.0	5.0
3	EQ5313		CONTROLS											
	ELEC	0	0	0	0	163	216	223	223	180	61	0	0	1,067
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L		AIR-CLD RECIP >55 TONS											
	ELEC	0	0	0	0	13280	22661	21930	22064	14941	7059	0	0	101,935
	PK	0.0	0.0	0.0	0.0	115.8	122.5	116.8	117.0	104.2	61.8	0.0	0.0	122.5
4	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	1374	2728	2649	2628	1650	524	0	0	11,552
	PK	0.0	0.0	0.0	0.0	14.0	14.5	14.4	14.4	13.1	7.6	0.0	0.0	14.5
4	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	13082	12660	13082	13082	12660	11774	0	0	76,340
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313		CONTROLS											
	ELEC	0	0	0	0	186	180	186	186	180	167	0	0	1,085
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
5	EQ1750		AIR-CLD CTV ICE-CHILL H2O											
	ELEC	4039	3724	4123	3990	14237	17436	16896	17936	14951	11362	3911	4123	116,729
	PK	59.6	59.6	59.6	59.6	140.2	145.5	144.8	144.4	140.2	140.2	140.2	59.6	145.5
5	EQ5205		CONDENSER FANS											
	ELEC	10	9	10	10	14	14	14	15	14	12	10	10	142
	PK	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	EQ5309		CONTROLS											

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #13

	ELEC	124	112	124	120	297	292	299	302	291	300	120	124	2,505
	PK	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1	EQ4003			FC CENTRIF. FAN C.V.										
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003			FC CENTRIF. FAN C.V.										
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,155
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371			FAN COIL SUPPLY FAN										
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371			FAN COIL SUPPLY FAN										
	ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,182
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003			FC CENTRIF. FAN C.V.										
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001			GAS FIRE TUBE HOT WATER										
	GAS	890	940	266	6	0	0	0	0	0	0	184	689	2,974
	PK	5.7	4.0	2.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.3	5.7
1	EQ5020			HEAT WATER CIRC. PUMP C.V.										
	ELEC	7744	7976	3186	84	0	0	0	0	0	0	2194	5971	27,156
	PK	21.1	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240			BOILER FORCED DRAFT FAN										
	ELEC	1927	1985	793	21	0	0	0	0	0	0	546	1486	6,757
	PK	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307			BOILER CONTROLS										
	ELEC	183	189	76	2	0	0	0	0	0	0	52	142	644
	PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002			GAS FIRE TUBE STEAM										
	GAS	1177	1067	254	4	0	0	0	0	0	0	134	724	3,362
	PK	5.4	5.5	3.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8	4.5	5.5
2	EQ5020			HEAT WATER CIRC. PUMP C.V.										
	ELEC	1035	1021	483	28	0	0	0	0	0	0	345	929	3,841
	PK	2.3	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.3
2	EQ5240			BOILER FORCED DRAFT FAN										
	ELEC	265	262	124	7	0	0	0	0	0	0	88	238	985
	PK	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307			BOILER CONTROLS										
	ELEC	225	222	105	6	0	0	0	0	0	0	75	202	835
	PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #13

2	EQ5061			CONDENSATE RETURN PUMP										
	ELEC	12	12	6	0	0	0	0	0	0	0	4	11	46
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406			MAKE-UP WATER										
	WATER	1	1	1	0	0	0	0	0	0	0	0	1	5
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #13

-- U T I L I T Y   P E A K   C H E C K S U M S --

Utility ELECTRIC DEMAND

Peak Value 630.4 (kW)
Yearly Time of Peak 12 (hr) 6 (mo)

Hour 12 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	44.3	7.03
2	EQ1120S	AIR-CLD RECIP <20 TONS	24.7	3.92
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	41.6	6.60
4	EQ1122L	AIR-CLD RECIP >55 TONS	158.4	25.13
Sub Total			269.1	42.69
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.60
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.38
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.57
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.47
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.52
Sub Total			47.6	7.55
Sub Total			0.0	0.00
Miscellaneous				
Lights			166.1	26.36
Base Utilities			0.0	0.00
Misc Equipment			147.6	23.41
Sub Total			313.7	49.77
Grand Total			630.4	100.00

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

January

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	42.7	35.4	0.0	0.0	0.0	743
2	41.8	34.7	0.0	14.9	24.5	751
3	41.1	34.4	0.0	0.0	0.0	743
4	40.6	34.0	0.0	14.9	24.5	751
5	40.4	34.0	0.0	0.0	0.0	743
6	40.8	34.4	0.0	14.9	24.5	751
7	41.6	35.0	0.0	0.0	0.0	743
8	43.2	36.5	0.0	14.9	24.5	751
9	45.5	38.5	0.0	0.0	0.0	751
10	48.1	40.4	0.0	0.0	0.0	751
11	51.0	42.2	0.0	0.0	0.0	751
12	53.8	43.8	0.0	0.0	0.0	751
13	55.9	45.0	0.0	0.0	0.0	743
14	57.3	45.5	0.0	0.0	0.0	736
15	57.8	45.6	0.0	0.0	0.0	729
16	57.3	44.8	0.0	0.0	0.0	721
17	56.1	43.9	0.0	0.0	0.0	721
18	54.2	42.7	0.0	0.0	0.0	721
19	51.9	41.6	0.0	0.0	0.0	721
20	49.6	40.2	0.0	0.0	0.0	721
21	47.7	39.1	0.0	0.0	0.0	721
22	46.0	37.9	0.0	0.0	0.0	721
23	44.6	36.8	0.0	0.0	0.0	721
24	43.6	36.1	0.0	0.0	0.0	721

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	33.4	30.4	0.0	36.8	54.7	751	0.0	43.9	59.6	751
2	32.1	29.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	31.7	29.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	31.9	29.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	32.6	30.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	33.6	31.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	35.0	32.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	36.6	34.4	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	38.5	36.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	40.4	37.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	42.3	38.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	44.2	39.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	45.8	40.5	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	47.2	41.1	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	48.2	41.6	0.0	0.0	0.0	721	0.0	0.0	0.0	721

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	48.9	41.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	49.1	41.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	48.7	41.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	47.4	41.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	45.5	40.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	43.1	38.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	40.4	36.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	37.7	34.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	35.3	32.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	33.4	30.4	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	32.1	29.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	31.7	29.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	31.9	29.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	32.6	30.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	33.6	31.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	35.0	32.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	36.6	34.4	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	38.5	36.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	40.4	37.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	42.3	38.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	44.2	39.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	45.8	40.5	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	47.2	41.1	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	48.2	41.6	0.0	0.0	0.0	721	0.0	0.0	0.0	721
16	48.9	41.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	49.1	41.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	48.7	41.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	47.4	41.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	45.5	40.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	43.1	38.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	40.4	36.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	37.7	34.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	35.3	32.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

February

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	42.8	35.6	0.0	43.9	59.6	751
2	42.0	34.9	0.0	0.0	0.0	743
3	41.4	34.5	0.0	14.9	24.5	751
4	41.0	34.2	0.0	0.0	0.0	743
5	40.8	34.0	0.0	14.9	24.5	751
6	41.1	34.4	0.0	0.0	0.0	743
7	41.9	35.0	0.0	14.9	24.5	751
8	43.3	36.5	0.0	0.0	0.0	743
9	45.3	38.2	0.0	0.0	0.0	743
10	47.7	39.5	0.0	0.0	0.0	743
11	50.3	41.3	0.0	0.0	0.0	743
12	52.8	42.5	0.0	0.0	0.0	743
13	54.7	43.4	0.0	0.0	0.0	736
14	55.9	44.0	0.0	0.0	0.0	729
15	56.4	44.2	0.0	0.0	0.0	721
16	55.9	43.6	0.0	0.0	0.0	714
17	54.8	42.6	0.0	0.0	0.0	714
18	53.1	41.4	0.0	0.0	0.0	714
19	51.1	40.4	0.0	0.0	0.0	714
20	49.1	39.4	0.0	0.0	0.0	714
21	47.4	38.5	0.0	0.0	0.0	714
22	45.8	37.6	0.0	0.0	0.0	714
23	44.5	36.9	0.0	0.0	0.0	714
24	43.6	36.1	0.0	0.0	0.0	714

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	37.5	34.5	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	36.0	33.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	34.7	31.8	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	33.6	30.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	32.8	30.1	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	32.2	29.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	32.1	29.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	32.5	30.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	33.9	31.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	36.0	33.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	38.5	34.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	41.3	36.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	43.8	38.1	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	45.9	39.5	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	47.2	40.4	0.0	0.0	0.0	721	0.0	0.0	0.0	721

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	47.7	40.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	47.5	40.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	47.0	39.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	46.2	39.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	45.1	39.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	43.8	39.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	42.3	38.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	40.7	37.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	39.1	35.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	37.5	34.5	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	36.0	33.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	34.7	31.8	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	33.6	30.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	32.8	30.1	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	32.2	29.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	32.1	29.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	32.5	30.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	33.9	31.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	36.0	33.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	38.5	34.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	41.3	36.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	43.8	38.1	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	45.9	39.5	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	47.2	40.4	0.0	0.0	0.0	721	0.0	0.0	0.0	721
16	47.7	40.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	47.5	40.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	47.0	39.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	46.2	39.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	45.1	39.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	43.8	39.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	42.3	38.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	40.7	37.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	39.1	35.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- BUILDING COOLING DEMANDS AND THERMAL STORAGE ----

March

Hour	Design OADB (F)	Design OAWB (F)	Design Cooling Load (Ton)	Design Chiller Load (Ton)	Design Chiller Demand (kW)	Design Storage Capacity (Ton-Hr)
1	51.8	42.9	0.0	43.9	59.6	751
2	50.8	42.1	0.0	0.0	0.0	743
3	50.0	41.8	0.0	14.9	24.5	751
4	49.3	41.1	0.0	0.0	0.0	743
5	49.1	41.1	0.0	14.9	24.5	751
6	49.5	41.6	0.0	0.0	0.0	743
7	50.6	42.7	0.0	14.9	24.5	751
8	52.5	44.3	0.0	0.0	0.0	743
9	55.2	46.4	0.0	0.0	0.0	743
10	58.3	48.5	0.0	0.0	0.0	743
11	61.8	50.3	0.0	0.0	0.0	743
12	65.1	51.9	0.0	0.0	0.0	743
13	67.6	53.4	0.0	0.0	0.0	736
14	69.3	53.9	0.0	0.0	0.0	729
15	69.9	53.8	0.0	0.0	0.0	721
16	69.3	53.1	0.0	0.0	0.0	714
17	67.8	51.8	0.0	0.0	0.0	714
18	65.6	50.2	0.0	0.0	0.0	714
19	62.9	48.9	0.0	0.0	0.0	714
20	60.2	47.7	0.0	0.0	0.0	714
21	57.9	46.5	0.0	0.0	0.0	714
22	55.8	45.3	0.0	0.0	0.0	714
23	54.1	44.4	0.0	0.0	0.0	714
24	52.9	43.7	0.0	0.0	0.0	714

Hour	Typical OADB (F)	Typical OAWB (F)	Weekday Cooling Load (Ton)	Weekday Chiller Load (Ton)	Weekday Chiller Demand (kW)	Weekday Storage Capacity (Ton-Hr)	Saturday Cooling Load (Ton)	Saturday Chiller Load (Ton)	Saturday Chiller Demand (kW)	Saturday Storage Capacity (Ton-Hr)
1	45.4	41.6	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	43.3	39.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	41.6	38.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	40.6	37.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	40.2	37.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	40.6	37.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	41.6	39.0	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	43.3	40.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	45.4	42.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	47.9	44.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	50.6	45.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	53.3	46.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	55.8	48.5	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	58.0	49.6	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	59.6	50.3	0.0	0.0	0.0	721	0.0	0.0	0.0	721

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

Hour	Typical OADB (F)	Typical OAWB (F)	Weekday Cooling Load (Ton)	Weekday Chiller Load (Ton)	Weekday Chiller Demand (kW)	Weekday Storage Capacity (Ton-Hr)	Saturday Cooling Load (Ton)	Saturday Chiller Load (Ton)	Saturday Chiller Demand (kW)	Saturday Storage Capacity (Ton-Hr)
16	60.7	50.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	61.0	50.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	60.7	50.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	59.6	50.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	58.0	50.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	55.8	49.4	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	53.3	47.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	50.6	45.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	47.9	43.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714

Hour	Typical OADB (F)	Typical OAWB (F)	Sunday Cooling Load (Ton)	Sunday Chiller Load (Ton)	Sunday Chiller Demand (kW)	Sunday Storage Capacity (Ton-Hr)	Monday Cooling Load (Ton)	Monday Chiller Load (Ton)	Monday Chiller Demand (kW)	Monday Storage Capacity (Ton-Hr)
1	45.4	41.6	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	43.3	39.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	41.6	38.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	40.6	37.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	40.2	37.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	40.6	37.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	41.6	39.0	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	43.3	40.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	45.4	42.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	47.9	44.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	50.6	45.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	53.3	46.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	55.8	48.5	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	58.0	49.6	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	59.6	50.3	0.0	0.0	0.0	721	0.0	0.0	0.0	721
16	60.7	50.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	61.0	50.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	60.7	50.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	59.6	50.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	58.0	50.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	55.8	49.4	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	53.3	47.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	50.6	45.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	47.9	43.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

April

Hour	Design OADB (F)	Design OAWB (F)	Design Cooling Load (Ton)	Design Chiller Load (Ton)	Design Chiller Demand (kW)	Design Storage Capacity (Ton-Hr)
1	62.6	52.5	0.0	43.9	59.6	751
2	61.6	52.1	0.0	0.0	0.0	743
3	60.9	51.6	0.0	14.9	24.5	751
4	60.3	51.2	0.0	0.0	0.0	743
5	60.1	51.3	0.0	14.9	24.5	751
6	60.5	51.9	0.0	0.0	0.0	743
7	61.4	53.0	0.0	14.9	24.5	751
8	63.2	54.5	0.0	0.0	0.0	743
9	65.7	55.8	0.0	0.0	0.0	743
10	68.6	57.1	0.0	0.0	0.0	743
11	71.9	58.6	0.0	0.0	0.0	743
12	75.0	60.3	0.0	0.0	0.0	743
13	77.4	61.5	0.0	0.0	0.0	736
14	78.9	62.2	0.0	0.0	0.0	729
15	79.5	62.5	0.0	0.0	0.0	721
16	78.9	61.8	0.0	0.0	0.0	714
17	77.5	60.3	0.0	0.0	0.0	714
18	75.4	59.1	0.0	0.0	0.0	714
19	72.9	57.3	0.0	0.0	0.0	714
20	70.4	56.5	0.0	0.0	0.0	714
21	68.2	55.7	0.0	0.0	0.0	714
22	66.3	55.0	0.0	0.0	0.0	714
23	64.7	54.0	0.0	0.0	0.0	714
24	63.6	53.2	0.0	0.0	0.0	714

Hour	Typical OADB (F)	Typical OAWB (F)	Weekday Cooling Load (Ton)	Weekday Chiller Load (Ton)	Weekday Chiller Demand (kW)	Weekday Storage Capacity (Ton-Hr)	Saturday Cooling Load (Ton)	Saturday Chiller Load (Ton)	Saturday Chiller Demand (kW)	Saturday Storage Capacity (Ton-Hr)
1	57.7	53.9	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	55.9	52.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	54.2	51.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	52.9	50.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	51.9	49.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	51.2	49.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	51.0	49.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	51.6	49.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	53.3	50.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	55.9	51.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	59.0	53.4	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	62.4	55.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	65.5	57.7	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	68.1	59.4	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	69.8	60.7	0.0	0.0	0.0	721	0.0	0.0	0.0	721

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	70.4	60.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	70.2	60.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	69.5	60.1	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	68.5	59.4	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	67.2	59.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	65.5	59.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	63.7	58.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	61.7	57.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	59.7	55.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	57.7	53.9	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	55.9	52.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	54.2	51.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	52.9	50.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	51.9	49.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	51.2	49.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	51.0	49.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	51.6	49.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	53.3	50.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	55.9	51.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	59.0	53.4	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	62.4	55.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	65.5	57.7	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	68.1	59.4	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	69.8	60.7	0.0	0.0	0.0	721	0.0	0.0	0.0	721
16	70.4	60.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	70.2	60.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	69.5	60.1	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	68.5	59.4	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	67.2	59.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	65.5	59.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	63.7	58.8	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	61.7	57.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	59.7	55.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

May

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	70.8	59.3	0.0	43.9	59.6	751
2	69.8	58.5	0.0	0.0	0.0	743
3	69.0	58.2	0.0	14.9	24.5	751
4	68.4	58.1	0.0	0.0	0.0	743
5	68.2	58.0	0.0	14.9	24.5	751
6	68.6	58.5	0.0	0.0	0.0	743
7	69.6	59.5	0.0	14.9	24.5	751
8	71.3	60.6	0.0	0.0	0.0	743
9	73.9	61.5	0.0	0.0	0.0	743
10	76.8	62.7	0.0	0.0	0.0	743
11	80.1	63.9	0.0	0.0	0.0	743
12	83.2	65.4	0.0	0.0	0.0	743
13	85.6	66.5	81.3	0.0	0.0	655
14	87.1	67.1	105.2	0.0	0.0	543
15	87.7	67.2	112.1	0.0	0.0	425
16	87.1	66.5	111.9	0.0	0.0	309
17	85.8	65.1	0.0	0.0	0.0	309
18	83.6	63.9	0.0	0.0	0.0	309
19	81.1	62.4	0.0	0.0	0.0	309
20	78.6	61.6	0.0	0.0	0.0	309
21	76.4	61.8	0.0	0.0	0.0	309
22	74.5	60.9	0.0	0.0	0.0	309
23	72.9	60.3	0.0	0.0	0.0	309
24	71.7	59.9	0.0	0.0	0.0	309

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	66.6	62.3	0.0	125.0	140.2	431	0.0	125.0	140.2	564
2	64.5	60.4	0.0	125.0	140.2	552	0.0	125.0	140.2	684
3	62.7	59.1	0.0	125.0	140.2	671	0.0	74.3	84.4	751
4	61.2	58.1	0.0	86.3	96.0	751	0.0	0.0	0.0	743
5	60.0	57.1	0.0	0.0	0.0	743	0.0	14.9	24.5	751
6	59.3	56.6	0.0	14.9	24.5	751	0.0	0.0	0.0	743
7	59.0	56.5	0.0	0.0	0.0	743	0.0	14.9	24.5	751
8	59.5	56.6	0.0	14.9	24.5	751	0.0	0.0	0.0	743
9	60.9	56.6	0.0	0.0	0.0	751	0.0	0.0	0.0	743
10	63.0	57.2	0.0	0.0	0.0	751	0.0	0.0	0.0	743
11	65.7	58.1	0.0	0.0	0.0	751	0.0	0.0	0.0	743
12	68.7	59.8	0.0	0.0	0.0	751	0.0	0.0	0.0	743
13	71.7	61.6	50.6	0.0	0.0	693	19.8	0.0	0.0	716
14	74.5	63.4	71.1	0.0	0.0	615	24.1	0.0	0.0	685
15	76.6	64.8	79.7	0.0	0.0	529	32.1	0.0	0.0	646

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	78.0	65.6	80.0	0.0	0.0	444	38.1	0.0	0.0	601
17	78.5	65.6	0.0	0.0	0.0	444	0.0	0.0	0.0	601
18	78.2	65.8	0.0	0.0	0.0	444	0.0	0.0	0.0	601
19	77.5	65.6	0.0	0.0	0.0	444	0.0	0.0	0.0	601
20	76.3	66.1	0.0	0.0	0.0	444	0.0	0.0	0.0	601
21	74.8	67.2	0.0	0.0	0.0	444	0.0	0.0	0.0	601
22	73.0	66.4	0.0	0.0	0.0	444	0.0	0.0	0.0	601
23	70.9	65.4	0.0	0.0	0.0	444	0.0	0.0	0.0	601
24	68.7	64.0	0.0	0.0	0.0	444	0.0	0.0	0.0	601

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	66.6	62.3	0.0	125.0	140.2	720	0.0	125.0	140.2	728
2	64.5	60.4	0.0	37.8	55.4	751	0.0	30.7	50.3	751
3	62.7	59.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
4	61.2	58.1	0.0	14.9	24.5	751	0.0	14.9	24.5	751
5	60.0	57.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
6	59.3	56.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
7	59.0	56.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
8	59.5	56.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
9	60.9	56.6	0.0	0.0	0.0	751	0.0	0.0	0.0	751
10	63.0	57.2	0.0	0.0	0.0	751	0.0	0.0	0.0	751
11	65.7	58.1	0.0	0.0	0.0	751	0.0	0.0	0.0	751
12	68.7	59.8	0.0	0.0	0.0	751	0.0	0.0	0.0	751
13	71.7	61.6	19.8	0.0	0.0	724	50.6	0.0	0.0	693
14	74.5	63.4	24.1	0.0	0.0	692	71.1	0.0	0.0	615
15	76.6	64.8	32.1	0.0	0.0	653	79.8	0.0	0.0	529
16	78.0	65.6	38.1	0.0	0.0	609	80.0	0.0	0.0	444
17	78.5	65.6	0.0	0.0	0.0	609	0.0	0.0	0.0	444
18	78.2	65.8	0.0	0.0	0.0	609	0.0	0.0	0.0	444
19	77.5	65.6	0.0	0.0	0.0	609	0.0	0.0	0.0	444
20	76.3	66.1	0.0	0.0	0.0	609	0.0	0.0	0.0	444
21	74.8	67.2	0.0	0.0	0.0	609	0.0	0.0	0.0	444
22	73.0	66.4	0.0	0.0	0.0	609	0.0	0.0	0.0	444
23	70.9	65.4	0.0	0.0	0.0	609	0.0	0.0	0.0	444
24	68.7	64.0	0.0	0.0	0.0	609	0.0	0.0	0.0	444

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- BUILDING COOLING DEMANDS AND THERMAL STORAGE ----

June

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	79.5	66.2	0.0	125.0	145.5	564
2	78.5	65.3	0.0	125.0	144.3	683
3	77.7	65.1	0.0	74.3	86.3	751
4	77.2	64.8	0.0	0.0	0.0	743
5	77.0	65.1	0.0	14.9	24.9	751
6	77.4	65.6	0.0	0.0	0.0	743
7	78.3	66.5	0.0	14.9	25.1	751
8	80.0	67.7	0.0	0.0	0.0	743
9	82.5	68.3	0.0	0.0	0.0	743
10	85.4	69.5	0.0	0.0	0.0	743
11	88.7	70.8	0.0	0.0	0.0	743
12	91.8	72.2	0.0	0.0	0.0	743
13	94.1	72.6	107.2	0.0	0.0	629
14	95.6	72.9	135.8	0.0	0.0	487
15	96.2	72.9	139.5	0.0	0.0	342
16	95.6	72.0	138.6	0.0	0.0	200
17	94.3	70.8	0.0	0.0	0.0	200
18	92.1	69.7	0.0	0.0	0.0	200
19	89.6	68.3	0.0	0.0	0.0	200
20	87.1	67.7	0.0	0.0	0.0	200
21	85.0	67.5	0.0	0.0	0.0	200
22	83.1	67.3	0.0	0.0	0.0	200
23	81.6	66.8	0.0	0.0	0.0	200
24	80.4	66.3	0.0	0.0	0.0	200

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	73.0	67.9	0.0	125.0	140.2	323	0.0	125.0	140.2	421
2	71.2	66.1	0.0	125.0	140.2	445	0.0	125.0	140.2	542
3	69.7	65.2	0.0	125.0	140.2	566	0.0	125.0	140.2	661
4	68.5	64.3	0.0	125.0	140.2	685	0.0	96.5	106.6	751
5	67.8	64.2	0.0	72.7	83.0	751	0.0	0.0	0.0	743
6	67.6	64.2	0.0	0.0	0.0	743	0.0	14.9	24.5	751
7	68.1	64.8	0.0	14.9	24.5	751	0.0	0.0	0.0	743
8	69.4	65.7	0.0	0.0	0.0	743	0.0	14.9	24.5	751
9	71.6	66.2	0.0	0.0	0.0	743	0.0	0.0	0.0	751
10	74.2	67.2	0.0	0.0	0.0	743	0.0	0.0	0.0	751
11	77.2	68.5	0.0	0.0	0.0	743	0.0	0.0	0.0	751
12	80.2	70.0	0.0	0.0	0.0	743	0.0	0.0	0.0	751
13	82.8	70.8	81.8	0.0	0.0	654	51.9	0.0	0.0	692
14	85.0	71.6	110.5	0.0	0.0	537	61.0	0.0	0.0	624
15	86.3	72.3	114.9	0.0	0.0	417	66.8	0.0	0.0	551

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	86.8	72.1	114.0	0.0	0.0	299	64.4	0.0	0.0	481
17	86.6	71.7	0.0	0.0	0.0	299	0.0	0.0	0.0	481
18	85.8	71.5	0.0	0.0	0.0	299	0.0	0.0	0.0	481
19	84.7	71.2	0.0	0.0	0.0	299	0.0	0.0	0.0	481
20	83.2	71.5	0.0	0.0	0.0	299	0.0	0.0	0.0	481
21	81.4	71.7	0.0	0.0	0.0	299	0.0	0.0	0.0	481
22	79.3	71.4	0.0	0.0	0.0	299	0.0	0.0	0.0	481
23	77.2	70.5	0.0	0.0	0.0	299	0.0	0.0	0.0	481
24	75.1	69.1	0.0	0.0	0.0	299	0.0	0.0	0.0	481

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	73.0	67.9	0.0	125.0	140.2	601	0.0	125.0	140.2	594
2	71.2	66.1	0.0	125.0	140.2	720	0.0	125.0	140.2	713
3	69.7	65.2	0.0	38.3	55.7	751	0.0	45.3	60.6	751
4	68.5	64.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	67.8	64.2	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	67.6	64.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	68.1	64.8	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	69.4	65.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	71.6	66.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	74.2	67.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	77.2	68.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	80.2	70.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	82.8	70.8	51.9	0.0	0.0	684	81.8	0.0	0.0	654
14	85.0	71.6	61.0	0.0	0.0	616	110.5	0.0	0.0	537
15	86.3	72.3	66.8	0.0	0.0	543	114.9	0.0	0.0	417
16	86.8	72.1	64.4	0.0	0.0	473	114.0	0.0	0.0	299
17	86.6	71.7	0.0	0.0	0.0	473	0.0	0.0	0.0	299
18	85.8	71.5	0.0	0.0	0.0	473	0.0	0.0	0.0	299
19	84.7	71.2	0.0	0.0	0.0	473	0.0	0.0	0.0	299
20	83.2	71.5	0.0	0.0	0.0	473	0.0	0.0	0.0	299
21	81.4	71.7	0.0	0.0	0.0	473	0.0	0.0	0.0	299
22	79.3	71.4	0.0	0.0	0.0	473	0.0	0.0	0.0	299
23	77.2	70.5	0.0	0.0	0.0	473	0.0	0.0	0.0	299
24	75.1	69.1	0.0	0.0	0.0	473	0.0	0.0	0.0	299

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

July

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	78.9	67.7	0.0	125.0	144.8	421
2	78.2	67.2	0.0	125.0	143.9	542
3	77.6	66.8	0.0	125.0	143.3	661
4	77.1	66.6	0.0	96.5	108.5	751
5	77.0	66.6	0.0	0.0	0.0	743
6	77.3	66.9	0.0	14.9	24.9	751
7	78.0	67.6	0.0	0.0	0.0	743
8	79.4	68.8	0.0	14.9	25.4	751
9	81.3	69.6	0.0	0.0	0.0	751
10	83.6	70.7	0.0	0.0	0.0	751
11	86.1	72.2	0.0	0.0	0.0	751
12	88.5	73.3	0.0	0.0	0.0	751
13	90.3	74.0	108.1	0.0	0.0	635
14	91.5	74.3	135.0	0.0	0.0	494
15	92.0	74.0	139.0	0.0	0.0	350
16	91.5	73.2	138.3	0.0	0.0	208
17	90.5	72.1	0.0	0.0	0.0	208
18	88.8	70.8	0.0	0.0	0.0	208
19	86.9	70.4	0.0	0.0	0.0	208
20	84.9	70.2	0.0	0.0	0.0	208
21	83.3	70.0	0.0	0.0	0.0	208
22	81.8	69.4	0.0	0.0	0.0	208
23	80.6	68.7	0.0	0.0	0.0	208
24	79.7	68.4	0.0	0.0	0.0	208

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	72.0	69.3	0.0	125.0	140.2	331	0.0	125.0	140.2	432
2	70.5	68.0	0.0	125.0	140.2	453	0.0	125.0	140.2	553
3	69.4	67.1	0.0	125.0	140.2	573	0.0	125.0	140.2	673
4	68.5	66.4	0.0	125.0	140.2	693	0.0	85.1	94.8	751
5	67.9	66.0	0.0	65.3	76.4	751	0.0	0.0	0.0	743
6	67.7	65.9	0.0	0.0	0.0	743	0.0	14.9	24.5	751
7	68.1	66.3	0.0	14.9	24.5	751	0.0	0.0	0.0	743
8	69.1	67.3	0.0	0.0	0.0	743	0.0	14.9	24.5	751
9	70.8	68.0	0.0	0.0	0.0	743	0.0	0.0	0.0	751
10	72.9	69.1	0.0	0.0	0.0	743	0.0	0.0	0.0	751
11	75.2	70.5	0.0	0.0	0.0	743	0.0	0.0	0.0	751
12	77.5	71.7	0.0	0.0	0.0	743	0.0	0.0	0.0	751
13	79.6	72.7	77.9	0.0	0.0	658	49.4	0.0	0.0	694
14	81.3	73.5	108.2	0.0	0.0	543	57.4	0.0	0.0	630
15	82.3	73.7	112.0	0.0	0.0	426	63.8	0.0	0.0	560

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	82.7	73.5	111.0	0.0	0.0	311	61.2	0.0	0.0	493
17	82.5	73.1	0.0	0.0	0.0	311	0.0	0.0	0.0	493
18	82.0	72.6	0.0	0.0	0.0	311	0.0	0.0	0.0	493
19	81.1	73.2	0.0	0.0	0.0	311	0.0	0.0	0.0	493
20	79.9	73.8	0.0	0.0	0.0	311	0.0	0.0	0.0	493
21	78.5	73.9	0.0	0.0	0.0	311	0.0	0.0	0.0	493
22	76.9	73.1	0.0	0.0	0.0	311	0.0	0.0	0.0	493
23	75.2	71.9	0.0	0.0	0.0	311	0.0	0.0	0.0	493
24	73.5	70.8	0.0	0.0	0.0	311	0.0	0.0	0.0	493

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	72.0	69.3	0.0	125.0	140.2	613	0.0	125.0	140.2	606
2	70.5	68.0	0.0	125.0	140.2	732	0.0	125.0	140.2	725
3	69.4	67.1	0.0	26.6	43.5	751	0.0	33.6	52.6	751
4	68.5	66.4	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	67.9	66.0	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	67.7	65.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	68.1	66.3	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	69.1	67.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	70.8	68.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	72.9	69.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	75.2	70.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	77.5	71.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	79.6	72.7	49.4	0.0	0.0	687	77.9	0.0	0.0	658
14	81.3	73.5	57.4	0.0	0.0	622	108.2	0.0	0.0	543
15	82.3	73.7	63.8	0.0	0.0	552	112.0	0.0	0.0	426
16	82.7	73.5	61.2	0.0	0.0	486	111.0	0.0	0.0	311
17	82.5	73.1	0.0	0.0	0.0	486	0.0	0.0	0.0	311
18	82.0	72.6	0.0	0.0	0.0	486	0.0	0.0	0.0	311
19	81.1	73.2	0.0	0.0	0.0	486	0.0	0.0	0.0	311
20	79.9	73.8	0.0	0.0	0.0	486	0.0	0.0	0.0	311
21	78.5	73.9	0.0	0.0	0.0	486	0.0	0.0	0.0	311
22	76.9	73.1	0.0	0.0	0.0	486	0.0	0.0	0.0	311
23	75.2	71.9	0.0	0.0	0.0	486	0.0	0.0	0.0	311
24	73.5	70.8	0.0	0.0	0.0	486	0.0	0.0	0.0	311

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

August

	Design		Design			
	OADB	OAWB	Cooling Load	Chiller Load	Chiller Demand	Storage Capacity
Hour	(F)	(F)	(Ton)	(Ton)	(kW)	(Ton-Hr)
1	78.6	67.6	0.0	125.0	144.4	432
2	77.9	67.2	0.0	125.0	143.6	553
3	77.2	66.9	0.0	125.0	142.8	673
4	76.8	66.6	0.0	85.1	96.2	751
5	76.6	66.7	0.0	0.0	0.0	743
6	76.9	67.1	0.0	14.9	24.8	751
7	77.7	67.8	0.0	0.0	0.0	743
8	79.1	69.0	0.0	14.9	25.3	751
9	81.2	70.0	0.0	0.0	0.0	751
10	83.5	70.9	0.0	0.0	0.0	751
11	86.2	71.8	0.0	0.0	0.0	751
12	88.7	72.7	0.0	0.0	0.0	751
13	90.6	73.2	105.8	0.0	0.0	638
14	91.8	73.8	136.3	0.0	0.0	495
15	92.3	74.0	141.1	0.0	0.0	349
16	91.8	73.3	139.5	0.0	0.0	206
17	90.7	72.4	0.0	0.0	0.0	206
18	89.0	71.4	0.0	0.0	0.0	206
19	87.0	70.1	0.0	0.0	0.0	206
20	84.9	69.8	0.0	0.0	0.0	206
21	83.2	70.3	0.0	0.0	0.0	206
22	81.6	69.3	0.0	0.0	0.0	206
23	80.4	68.5	0.0	0.0	0.0	206
24	79.4	67.9	0.0	0.0	0.0	206

	Typical		Weekday				Saturday			
	OADB	OAWB	Cooling Load	Chiller Load	Chiller Demand	Storage Capacity	Cooling Load	Chiller Load	Chiller Demand	Storage Capacity
Hour	(F)	(F)	(Ton)	(Ton)	(kW)	(Ton-Hr)	(Ton)	(Ton)	(kW)	(Ton-Hr)
1	72.7	70.2	0.0	125.0	140.2	329	0.0	125.0	140.2	427
2	71.2	69.0	0.0	125.0	140.2	451	0.0	125.0	140.2	548
3	69.9	68.0	0.0	125.0	140.2	571	0.0	125.0	140.2	667
4	68.8	67.1	0.0	125.0	140.2	690	0.0	90.5	100.3	751
5	68.0	66.6	0.0	67.5	78.3	751	0.0	0.0	0.0	743
6	67.5	66.2	0.0	0.0	0.0	743	0.0	14.9	24.5	751
7	67.3	66.1	0.0	14.9	24.5	751	0.0	0.0	0.0	743
8	67.8	66.5	0.0	0.0	0.0	743	0.0	14.9	24.5	751
9	69.1	67.0	0.0	0.0	0.0	743	0.0	0.0	0.0	751
10	71.2	67.8	0.0	0.0	0.0	743	0.0	0.0	0.0	751
11	73.8	68.7	0.0	0.0	0.0	743	0.0	0.0	0.0	751
12	76.5	70.0	0.0	0.0	0.0	743	0.0	0.0	0.0	751
13	79.1	71.2	80.4	0.0	0.0	656	51.1	0.0	0.0	692
14	81.1	72.6	110.7	0.0	0.0	538	59.3	0.0	0.0	626
15	82.5	73.6	115.9	0.0	0.0	417	67.0	0.0	0.0	553

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	83.0	73.7	108.0	0.0	0.0	305	57.5	0.0	0.0	490
17	82.8	73.5	0.0	0.0	0.0	305	0.0	0.0	0.0	490
18	82.3	73.5	0.0	0.0	0.0	305	0.0	0.0	0.0	490
19	81.5	73.1	0.0	0.0	0.0	305	0.0	0.0	0.0	490
20	80.4	73.7	0.0	0.0	0.0	305	0.0	0.0	0.0	490
21	79.1	74.9	0.0	0.0	0.0	305	0.0	0.0	0.0	490
22	77.6	73.9	0.0	0.0	0.0	305	0.0	0.0	0.0	490
23	76.0	72.7	0.0	0.0	0.0	305	0.0	0.0	0.0	490
24	74.3	71.3	0.0	0.0	0.0	305	0.0	0.0	0.0	490

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	72.7	70.2	0.0	125.0	140.2	610	0.0	125.0	140.2	603
2	71.2	69.0	0.0	125.0	140.2	729	0.0	125.0	140.2	722
3	69.9	68.0	0.0	29.5	48.2	751	0.0	36.5	54.5	751
4	68.8	67.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	68.0	66.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	67.5	66.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	67.3	66.1	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	67.8	66.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	69.1	67.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	71.2	67.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	73.8	68.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	76.5	70.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	79.1	71.2	51.1	0.0	0.0	685	80.4	0.0	0.0	656
14	81.1	72.6	59.3	0.0	0.0	619	110.7	0.0	0.0	538
15	82.5	73.6	67.0	0.0	0.0	546	115.9	0.0	0.0	417
16	83.0	73.7	57.5	0.0	0.0	483	108.0	0.0	0.0	305
17	82.8	73.5	0.0	0.0	0.0	483	0.0	0.0	0.0	305
18	82.3	73.5	0.0	0.0	0.0	483	0.0	0.0	0.0	305
19	81.5	73.1	0.0	0.0	0.0	483	0.0	0.0	0.0	305
20	80.4	73.7	0.0	0.0	0.0	483	0.0	0.0	0.0	305
21	79.1	74.9	0.0	0.0	0.0	483	0.0	0.0	0.0	305
22	77.6	73.9	0.0	0.0	0.0	483	0.0	0.0	0.0	305
23	76.0	72.7	0.0	0.0	0.0	483	0.0	0.0	0.0	305
24	74.3	71.3	0.0	0.0	0.0	483	0.0	0.0	0.0	305

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- BUILDING COOLING DEMANDS AND THERMAL STORAGE ----

September

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	74.6	63.1	0.0	125.0	140.2	427
2	73.7	62.4	0.0	125.0	140.2	548
3	73.0	61.9	0.0	125.0	140.2	667
4	72.4	61.7	0.0	90.5	100.3	751
5	72.3	61.8	0.0	0.0	0.0	743
6	72.6	62.5	0.0	14.9	24.5	751
7	73.5	63.2	0.0	0.0	0.0	743
8	75.1	64.8	0.0	14.9	24.5	751
9	77.4	65.9	0.0	0.0	0.0	751
10	80.0	66.8	0.0	0.0	0.0	751
11	83.0	67.8	0.0	0.0	0.0	751
12	85.8	68.5	0.0	0.0	0.0	751
13	87.9	69.7	96.9	0.0	0.0	647
14	89.3	70.2	121.5	0.0	0.0	519
15	89.9	70.1	124.9	0.0	0.0	389
16	89.3	69.1	122.7	0.0	0.0	262
17	88.1	67.8	0.0	0.0	0.0	262
18	86.2	66.8	0.0	0.0	0.0	262
19	83.9	66.5	0.0	0.0	0.0	262
20	81.6	66.3	0.0	0.0	0.0	262
21	79.7	66.1	0.0	0.0	0.0	262
22	77.9	65.0	0.0	0.0	0.0	262
23	76.5	64.4	0.0	0.0	0.0	262
24	75.4	63.6	0.0	0.0	0.0	262

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	69.8	66.1	0.0	125.0	140.2	384	0.0	125.0	140.2	500
2	68.0	64.5	0.0	125.0	140.2	505	0.0	125.0	140.2	620
3	66.3	63.0	0.0	125.0	140.2	625	0.0	125.0	140.2	739
4	64.9	61.9	0.0	125.0	140.2	744	0.0	19.4	31.8	751
5	63.9	61.3	0.0	14.3	23.4	751	0.0	0.0	0.0	743
6	63.2	61.0	0.0	0.0	0.0	743	0.0	14.9	24.5	751
7	63.0	60.8	0.0	14.9	24.5	751	0.0	0.0	0.0	743
8	63.4	61.4	0.0	0.0	0.0	743	0.0	14.9	24.5	751
9	64.7	61.8	0.0	0.0	0.0	743	0.0	0.0	0.0	751
10	66.6	62.1	0.0	0.0	0.0	743	0.0	0.0	0.0	751
11	69.1	62.9	0.0	0.0	0.0	743	0.0	0.0	0.0	751
12	71.8	63.7	0.0	0.0	0.0	743	0.0	0.0	0.0	751
13	74.5	65.5	64.1	0.0	0.0	672	30.2	0.0	0.0	713
14	77.0	67.1	89.3	0.0	0.0	576	42.8	0.0	0.0	663
15	78.9	68.2	91.7	0.0	0.0	478	44.2	0.0	0.0	612

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

Hour	Typical OADB (F)	Typical OAWB (F)	Weekday Cooling Load (Ton)	Weekday Chiller Load (Ton)	Weekday Chiller Demand (kW)	Weekday Storage Capacity (Ton-Hr)	Saturday Cooling Load (Ton)	Saturday Chiller Load (Ton)	Saturday Chiller Demand (kW)	Saturday Storage Capacity (Ton-Hr)
16	80.2	68.6	94.7	0.0	0.0	379	44.8	0.0	0.0	562
17	80.6	68.5	0.0	0.0	0.0	379	0.0	0.0	0.0	562
18	80.4	68.9	0.0	0.0	0.0	379	0.0	0.0	0.0	562
19	79.7	70.0	0.0	0.0	0.0	379	0.0	0.0	0.0	562
20	78.7	71.2	0.0	0.0	0.0	379	0.0	0.0	0.0	562
21	77.3	71.6	0.0	0.0	0.0	379	0.0	0.0	0.0	562
22	75.6	70.5	0.0	0.0	0.0	379	0.0	0.0	0.0	562
23	73.7	69.4	0.0	0.0	0.0	379	0.0	0.0	0.0	562
24	71.8	67.7	0.0	0.0	0.0	379	0.0	0.0	0.0	562

Hour	Typical OADB (F)	Typical OAWB (F)	Sunday Cooling Load (Ton)	Sunday Chiller Load (Ton)	Sunday Chiller Demand (kW)	Sunday Storage Capacity (Ton-Hr)	Monday Cooling Load (Ton)	Monday Chiller Load (Ton)	Monday Chiller Demand (kW)	Monday Storage Capacity (Ton-Hr)
1	69.8	66.1	0.0	125.0	140.2	681	0.0	125.0	140.2	681
2	68.0	64.5	0.0	76.9	86.8	751	0.0	76.9	86.8	751
3	66.3	63.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
4	64.9	61.9	0.0	14.9	24.5	751	0.0	14.9	24.5	751
5	63.9	61.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
6	63.2	61.0	0.0	14.9	24.5	751	0.0	14.9	24.5	751
7	63.0	60.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
8	63.4	61.4	0.0	14.9	24.5	751	0.0	14.9	24.5	751
9	64.7	61.8	0.0	0.0	0.0	751	0.0	0.0	0.0	751
10	66.6	62.1	0.0	0.0	0.0	751	0.0	0.0	0.0	751
11	69.1	62.9	0.0	0.0	0.0	751	0.0	0.0	0.0	751
12	71.8	63.7	0.0	0.0	0.0	751	0.0	0.0	0.0	751
13	74.5	65.5	30.2	0.0	0.0	713	64.1	0.0	0.0	679
14	77.0	67.1	42.8	0.0	0.0	663	89.4	0.0	0.0	583
15	78.9	68.2	44.2	0.0	0.0	612	91.7	0.0	0.0	486
16	80.2	68.6	44.8	0.0	0.0	562	94.7	0.0	0.0	386
17	80.6	68.5	0.0	0.0	0.0	562	0.0	0.0	0.0	386
18	80.4	68.9	0.0	0.0	0.0	562	0.0	0.0	0.0	386
19	79.7	70.0	0.0	0.0	0.0	562	0.0	0.0	0.0	386
20	78.7	71.2	0.0	0.0	0.0	562	0.0	0.0	0.0	386
21	77.3	71.6	0.0	0.0	0.0	562	0.0	0.0	0.0	386
22	75.6	70.5	0.0	0.0	0.0	562	0.0	0.0	0.0	386
23	73.7	69.4	0.0	0.0	0.0	562	0.0	0.0	0.0	386
24	71.8	67.7	0.0	0.0	0.0	562	0.0	0.0	0.0	386

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

October

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	59.5	50.0	0.0	125.0	140.2	507
2	58.5	49.3	1.7	125.0	140.2	625
3	57.7	48.8	0.9	125.0	140.2	743
4	57.1	48.5	0.0	15.1	24.6	751
5	56.9	48.3	0.0	0.0	0.0	743
6	57.3	48.7	0.0	14.9	24.5	751
7	58.3	49.7	0.0	0.0	0.0	743
8	60.1	51.3	0.0	14.9	24.5	751
9	62.7	52.9	0.0	0.0	0.0	751
10	65.7	54.4	0.0	0.0	0.0	751
11	69.1	55.5	0.0	0.0	0.0	751
12	72.3	56.7	0.0	0.0	0.0	751
13	74.7	57.8	67.3	0.0	0.0	676
14	76.3	58.6	83.3	0.0	0.0	586
15	76.9	58.7	86.8	0.0	0.0	493
16	76.3	58.0	84.2	0.0	0.0	404
17	74.9	57.0	0.0	0.0	0.0	404
18	72.7	56.0	0.0	0.0	0.0	404
19	70.1	55.5	0.0	0.0	0.0	404
20	67.5	54.7	0.0	0.0	0.0	404
21	65.3	53.6	0.0	0.0	0.0	404
22	63.3	52.4	0.0	0.0	0.0	404
23	61.7	51.5	0.0	0.0	0.0	404
24	60.5	50.7	0.0	0.0	0.0	404

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	54.8	51.3	0.0	125.0	140.2	525	0.0	125.0	140.2	616
2	52.9	49.6	0.0	125.0	140.2	645	0.0	125.0	140.2	734
3	51.2	48.2	0.0	112.4	124.6	751	0.0	23.9	39.2	751
4	49.8	47.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	48.8	46.2	2.0	16.9	27.7	751	1.9	16.9	27.6	751
6	48.2	45.7	1.5	0.0	0.0	742	1.5	0.0	0.0	742
7	47.9	45.6	0.0	16.5	27.0	751	0.0	16.4	26.8	751
8	48.5	46.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	50.3	47.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	52.9	48.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	56.2	49.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	59.6	51.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	62.9	53.5	40.3	0.0	0.0	696	16.8	0.0	0.0	719
14	65.5	55.2	57.8	0.0	0.0	631	17.4	0.0	0.0	695
15	67.3	56.3	61.7	0.0	0.0	563	18.5	0.0	0.0	669

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	67.9	56.6	61.9	0.0	0.0	496	18.7	0.0	0.0	644
17	67.7	56.4	0.0	0.0	0.0	496	0.0	0.0	0.0	644
18	67.0	56.6	0.0	0.0	0.0	496	0.0	0.0	0.0	644
19	66.0	57.6	0.0	0.0	0.0	496	0.0	0.0	0.0	644
20	64.6	57.9	0.0	0.0	0.0	496	0.0	0.0	0.0	644
21	62.9	57.3	0.0	0.0	0.0	496	0.0	0.0	0.0	644
22	61.0	56.0	0.0	0.0	0.0	496	0.0	0.0	0.0	644
23	59.0	54.8	0.0	0.0	0.0	496	0.0	0.0	0.0	644
24	56.9	53.0	0.0	0.0	0.0	496	0.0	0.0	0.0	644

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	54.8	51.3	0.0	113.6	126.1	751	0.0	113.6	126.1	751
2	52.9	49.6	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	51.2	48.2	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	49.8	47.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	48.8	46.2	1.9	16.9	27.6	751	1.9	16.9	27.6	751
6	48.2	45.7	1.5	0.0	0.0	742	1.5	0.0	0.0	742
7	47.9	45.6	0.0	16.4	26.8	751	0.0	16.4	26.8	751
8	48.5	46.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	50.3	47.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	52.9	48.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	56.2	49.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	59.6	51.5	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	62.9	53.5	16.7	0.0	0.0	719	24.9	0.0	0.0	711
14	65.5	55.2	17.4	0.0	0.0	695	50.7	0.0	0.0	653
15	67.3	56.3	18.5	0.0	0.0	669	58.2	0.0	0.0	589
16	67.9	56.6	18.7	0.0	0.0	644	61.9	0.0	0.0	521
17	67.7	56.4	0.0	0.0	0.0	644	0.0	0.0	0.0	521
18	67.0	56.6	0.0	0.0	0.0	644	0.0	0.0	0.0	521
19	66.0	57.6	0.0	0.0	0.0	644	0.0	0.0	0.0	521
20	64.6	57.9	0.0	0.0	0.0	644	0.0	0.0	0.0	521
21	62.9	57.3	0.0	0.0	0.0	644	0.0	0.0	0.0	521
22	61.0	56.0	0.0	0.0	0.0	644	0.0	0.0	0.0	521
23	59.0	54.8	0.0	0.0	0.0	644	0.0	0.0	0.0	521
24	56.9	53.0	0.0	0.0	0.0	644	0.0	0.0	0.0	521

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- B U I L D I N G   C O O L I N G   D E M A N D S   A N D   T H E R M A L   S T O R A G E ----

November

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	56.0	47.2	0.0	125.0	140.2	641
2	55.0	46.4	0.0	116.9	130.1	751
3	54.2	45.8	0.0	0.0	0.0	743
4	53.6	45.2	0.0	14.9	24.5	751
5	53.4	45.3	0.0	0.0	0.0	743
6	53.8	45.9	0.0	14.9	24.5	751
7	54.8	46.9	0.0	0.0	0.0	743
8	56.6	48.7	0.0	14.9	24.5	751
9	59.2	50.6	0.0	0.0	0.0	751
10	62.2	52.6	0.0	0.0	0.0	751
11	65.6	54.1	0.0	0.0	0.0	751
12	68.8	55.3	0.0	0.0	0.0	751
13	71.2	55.7	0.0	0.0	0.0	743
14	72.8	56.3	0.0	0.0	0.0	736
15	73.4	56.2	0.0	0.0	0.0	729
16	72.8	55.6	0.0	0.0	0.0	721
17	71.4	54.6	0.0	0.0	0.0	721
18	69.2	53.6	0.0	0.0	0.0	721
19	66.6	53.0	0.0	0.0	0.0	721
20	64.0	51.7	0.0	0.0	0.0	721
21	61.8	50.7	0.0	0.0	0.0	721
22	59.8	49.6	0.0	0.0	0.0	721
23	58.2	48.7	0.0	0.0	0.0	721
24	57.0	48.0	0.0	0.0	0.0	721

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	48.7	45.7	0.0	36.8	54.7	751	0.0	43.9	59.6	751
2	46.9	44.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	45.5	42.8	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	44.6	41.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	44.4	42.0	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	44.8	42.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	45.9	43.9	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	47.8	46.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	50.2	48.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	52.9	49.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	55.8	51.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	58.5	52.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	60.9	52.5	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	62.8	53.4	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	64.0	53.8	0.0	0.0	0.0	721	0.0	0.0	0.0	721

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	64.4	53.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	64.1	53.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	63.2	53.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	61.8	54.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	60.0	53.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	57.9	52.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	55.6	51.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	53.2	49.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	50.8	47.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	48.7	45.7	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	46.9	44.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	45.5	42.8	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	44.6	41.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	44.4	42.0	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	44.8	42.7	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	45.9	43.9	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	47.8	46.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	50.2	48.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	52.9	49.9	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	55.8	51.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	58.5	52.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	60.9	52.5	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	62.8	53.4	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	64.0	53.8	0.0	0.0	0.0	721	0.0	0.0	0.0	721
16	64.4	53.9	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	64.1	53.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	63.2	53.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	61.8	54.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	60.0	53.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	57.9	52.7	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	55.6	51.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	53.2	49.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	50.8	47.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

---- BUILDING COOLING DEMANDS AND THERMAL STORAGE ----

December

	Design		Design			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	48.2	40.8	0.0	43.9	59.6	751
2	47.3	40.2	0.0	0.0	0.0	743
3	46.6	39.7	0.0	14.9	24.5	751
4	46.1	39.3	0.0	0.0	0.0	743
5	45.9	39.4	0.0	14.9	24.5	751
6	46.3	39.7	0.0	0.0	0.0	743
7	47.1	40.6	0.0	14.9	24.5	751
8	48.7	42.0	0.0	0.0	0.0	743
9	50.9	44.0	0.0	0.0	0.0	743
10	53.5	46.1	0.0	0.0	0.0	743
11	56.5	48.0	0.0	0.0	0.0	743
12	59.2	49.7	0.0	0.0	0.0	743
13	61.3	50.8	0.0	0.0	0.0	736
14	62.7	51.4	0.0	0.0	0.0	729
15	63.2	51.4	0.0	0.0	0.0	721
16	62.7	50.7	0.0	0.0	0.0	714
17	61.5	49.7	0.0	0.0	0.0	714
18	59.6	48.5	0.0	0.0	0.0	714
19	57.3	47.6	0.0	0.0	0.0	714
20	55.1	45.9	0.0	0.0	0.0	714
21	53.2	44.6	0.0	0.0	0.0	714
22	51.5	43.1	0.0	0.0	0.0	714
23	50.1	42.2	0.0	0.0	0.0	714
24	49.0	41.5	0.0	0.0	0.0	714

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	37.5	35.3	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	37.1	35.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	37.4	35.5	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	38.1	36.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	39.3	37.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	40.9	39.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	42.7	41.2	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	44.7	43.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	46.8	45.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	48.8	47.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	50.7	48.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	52.2	48.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	53.4	49.2	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	54.1	49.2	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	54.4	48.9	0.0	0.0	0.0	721	0.0	0.0	0.0	721

COLD THERMAL STORAGE - ALTERNATIVE 1
BLDG G101, ECO #13

	Typical		Weekday				Saturday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
16	54.0	48.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	53.0	47.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	51.4	46.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	49.3	45.4	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	47.0	43.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	44.5	41.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	42.2	39.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	40.1	37.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	38.5	36.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714

	Typical		Sunday				Monday			
Hour	OADB (F)	OAWB (F)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)	Cooling Load (Ton)	Chiller Load (Ton)	Chiller Demand (kW)	Storage Capacity (Ton-Hr)
1	37.5	35.3	0.0	43.9	59.6	751	0.0	43.9	59.6	751
2	37.1	35.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
3	37.4	35.5	0.0	14.9	24.5	751	0.0	14.9	24.5	751
4	38.1	36.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
5	39.3	37.6	0.0	14.9	24.5	751	0.0	14.9	24.5	751
6	40.9	39.2	0.0	0.0	0.0	743	0.0	0.0	0.0	743
7	42.7	41.2	0.0	14.9	24.5	751	0.0	14.9	24.5	751
8	44.7	43.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
9	46.8	45.3	0.0	0.0	0.0	743	0.0	0.0	0.0	743
10	48.8	47.0	0.0	0.0	0.0	743	0.0	0.0	0.0	743
11	50.7	48.1	0.0	0.0	0.0	743	0.0	0.0	0.0	743
12	52.2	48.8	0.0	0.0	0.0	743	0.0	0.0	0.0	743
13	53.4	49.2	0.0	0.0	0.0	736	0.0	0.0	0.0	736
14	54.1	49.2	0.0	0.0	0.0	729	0.0	0.0	0.0	729
15	54.4	48.9	0.0	0.0	0.0	721	0.0	0.0	0.0	721
16	54.0	48.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714
17	53.0	47.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
18	51.4	46.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
19	49.3	45.4	0.0	0.0	0.0	714	0.0	0.0	0.0	714
20	47.0	43.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
21	44.5	41.5	0.0	0.0	0.0	714	0.0	0.0	0.0	714
22	42.2	39.3	0.0	0.0	0.0	714	0.0	0.0	0.0	714
23	40.1	37.6	0.0	0.0	0.0	714	0.0	0.0	0.0	714
24	38.5	36.2	0.0	0.0	0.0	714	0.0	0.0	0.0	714

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #13

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

--------------------------------------- E N E R G Y   U S E   S U M M A R Y ---------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	9,266.2	633,624.6	5.1	8.5	761,859.0	6.5
Primary Cooling						
Compressor	330,325.6	0.0	0.0	14.5	3,382,541.8	28.8
Tower/Cond Fans	25,471.3	0.0	0.0	1.1	260,826.2	2.2
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	6,906.9	0.0	0.0	0.3	70,726.8	0.6
Auxiliary						
Supply Fans	416,647.3	0.0	0.0	18.2	4,266,477.5	36.4
Circulation Pumps	142,592.0	0.0	0.0	6.2	1,460,145.0	12.5
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	559,239.2	0.0	0.0	24.5	5,726,622.5	48.8
Lighting	729,764.0	0.0	0.0	31.9	7,472,800.5	62.2
Receptacle	439,233.8	0.0	0.0	19.2	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2,100,206.8	633,624.6	5.1	100.0	22,173,140.0	186.6

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #15

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	WATER (1000 Gl)	GAS DMND On Peak (Thrm/hr)
Jan	135,443	335	1,875	1	9
Feb	123,834	335	1,817	1	9
March	132,657	335	455	0	5
April	119,262	335	8	0	2
May	183,212	571	0	0	0
June	208,984	643	0	0	0
July	205,681	631	0	0	0
Aug	213,267	634	0	0	0
Sept	182,522	597	0	0	0
Oct	157,871	506	0	0	0
Nov	122,315	335	272	0	4
Dec	130,746	335	1,226	1	6
Total	1,915,794	643	5,653	3	9

Building Energy Consumption = 59,110 (Btu/Sq Ft/Year)   Floor Area = 120,182 (Sq Ft)
Source Energy Consumption = 168,186 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #15

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	51699	46725	53507	49740	52603	51547	50796	53507	49740	52603	49740	50796	613,004
	PK	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6	139.6
1	MISC LD													
	ELEC	36778	33261	39395	35169	38086	37787	35469	39395	35169	38086	35169	35469	439,234
	PK	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ1121S		AIR-CLD RECIP 20-35 TONS											
	ELEC	0	0	0	0	5070	8988	8807	8930	6044	1807	0	0	39,645
	PK	0.0	0.0	0.0	0.0	32.5	39.7	38.2	38.3	32.1	18.7	0.0	0.0	39.7
1	EQ5200		CONDENSER FANS											
	ELEC	0	0	0	0	611	1138	1123	1130	745	173	0	0	4,920
	PK	0.0	0.0	0.0	0.0	3.6	4.4	4.3	4.3	3.8	2.7	0.0	0.0	4.4
1	EQ5001		CHILLED WATER PUMP C.V.											
	ELEC	0	0	0	0	4008	5256	5431	5431	4599	1409	0	0	26,134
	PK	0.0	0.0	0.0	0.0	7.3	7.3	7.3	7.3	7.3	7.3	0.0	0.0	7.3
1	EQ5313		CONTROLS											
	ELEC	0	0	0	0	165	216	223	223	189	58	0	0	1,074
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
2	EQ1120S		AIR-CLD RECIP <20 TONS											
	ELEC	0	0	0	0	3021	4885	4837	4981	3476	1545	0	0	22,744
	PK	0.0	0.0	0.0	0.0	17.8	21.3	20.9	21.1	17.9	11.2	0.0	0.0	21.3

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #15

2	EQ5200 CONDENSER FANS													
	ELEC	0	0	0	0	363	617	614	627	428	145	0	0	2,793
	PK	0.0	0.0	0.0	0.0	2.0	2.4	2.4	2.4	2.1	1.6	0.0	0.0	2.4
2	EQ5001 CHILLED WATER PUMP C.V.													
	ELEC	0	0	0	0	1569	1656	1711	1711	1656	646	0	0	8,949
	PK	0.0	0.0	0.0	0.0	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.3
2	EQ5313 CONTROLS													
	ELEC	0	0	0	0	205	216	223	223	216	84	0	0	1,167
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
3	EQ1171L AIR-CLD COND COMP 35-60 TONS													
	ELEC	0	0	0	0	5732	10401	10302	10297	6763	1612	0	0	45,108
	PK	0.0	0.0	0.0	0.0	33.9	41.4	40.1	40.1	35.5	23.2	0.0	0.0	41.4
3	EQ5200 CONDENSER FANS													
	ELEC	0	0	0	0	694	1300	1306	1290	837	157	0	0	5,585
	PK	0.0	0.0	0.0	0.0	4.1	4.9	4.8	4.8	4.3	3.1	0.0	0.0	4.9
3	EQ5313 CONTROLS													
	ELEC	0	0	0	0	163	216	223	223	180	60	0	0	1,066
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
4	EQ1122L AIR-CLD RECIP >55 TONS													
	ELEC	0	0	0	0	17622	31290	29638	30267	20408	10002	0	0	139,227
	PK	0.0	0.0	0.0	0.0	110.9	145.1	136.9	139.7	120.1	70.1	0.0	0.0	145.1
4	EQ5200 CONDENSER FANS													
	ELEC	0	0	0	0	1992	3818	3671	3724	2418	828	0	0	16,4[illegible]
	PK	0.0	0.0	0.0	0.0	13.4	17.3	16.4	16.7	14.6	9.7	0.0	0.0	17.[illegible]
4	EQ5001 CHILLED WATER PUMP C.V.													
	ELEC	0	0	0	0	15698	15192	15698	15698	15192	13082	0	0	90,561
	PK	0.0	0.0	0.0	0.0	21.1	21.1	21.1	21.1	21.1	21.1	0.0	0.0	21.1
4	EQ5313 CONTROLS													
	ELEC	0	0	0	0	223	216	223	223	216	186	0	0	1,288
	PK	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
1	EQ4003 FC CENTRIF. FAN C.V.													
	ELEC	16899	15264	16899	16354	16899	16354	16899	16899	16354	16899	16354	16899	198,974
	PK	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
2	EQ4003 FC CENTRIF. FAN C.V.													
	ELEC	1797	1623	1797	1739	1797	1739	1797	1797	1739	1797	1739	1797	21,155
	PK	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
3	EQ4371 FAN COIL SUPPLY FAN													
	ELEC	2658	2401	2658	2572	2658	2572	2658	2658	2572	2658	2572	2658	31,294
	PK	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
4	EQ4371 FAN COIL SUPPLY FAN													

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
BLDG G101, ECO #15

	ELEC	6895	6228	6895	6672	6895	6672	6895	6895	6672	6895	6672	6895	81,182
	PK	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
5	EQ4003	FC CENTRIF. FAN C.V.												
	ELEC	7138	6447	7138	6908	7138	6908	7138	7138	6908	7138	6908	7138	84,042
	PK	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
1	EQ2001	GAS FIRE TUBE HOT WATER												
	GAS	973	1041	301	8	0	0	0	0	0	0	192	729	3,243
	PK	6.0	5.7	2.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	3.3	6.0
1	EQ5020	HEAT WATER CIRC. PUMP C.V.												
	ELEC	8187	8567	3186	84	0	0	0	0	0	0	2258	6436	28,717
	PK	21.1	21.1	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1	21.1
1	EQ5240	BOILER FORCED DRAFT FAN												
	ELEC	2037	2131	793	21	0	0	0	0	0	0	562	1601	7,145
	PK	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3
1	EQ5307	BOILER CONTROLS												
	ELEC	194	203	76	2	0	0	0	0	0	0	53	152	681
	PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ2002	GAS FIRE TUBE STEAM												
	GAS	902	776	155	0	0	0	0	0	0	0	80	497	2,410
	PK	4.4	4.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.6	4.4
2	EQ5020	HEAT WATER CIRC. PUMP C.V.												
	ELEC	782	662	212	0	0	0	0	0	0	0	193	609	2,459
	PK	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	2.3
2	EQ5240	BOILER FORCED DRAFT FAN												
	ELEC	200	170	54	0	0	0	0	0	0	0	50	156	630
	PK	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
2	EQ5307	BOILER CONTROLS												
	ELEC	170	144	46	0	0	0	0	0	0	0	42	133	535
	PK	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5
2	EQ5061	CONDENSATE RETURN PUMP												
	ELEC	9	8	3	0	0	0	0	0	0	0	2	7	30
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	EQ5406	MAKE-UP WATER												
	WATER	1	1	0	0	0	0	0	0	0	0	0	1	3
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
BLDG G101, ECO #15

-- U T I L I T Y   P E A K   C H E C K S U M S --

Utility ELECTRIC DEMAND

Peak Value 642.9 (kW)
Yearly Time of Peak 15 (hr) 6 (mo)

Hour 15 Month 6

Eqp. Ref. Num.	Equipment Code Name	Equipment Description	Utility Demand (kW)	Percnt Of Tot (%)
Cooling Equipment				
1	EQ1121S	AIR-CLD RECIP 20-35 TONS	51.6	8.02
2	EQ1120S	AIR-CLD RECIP <20 TONS	26.3	4.09
3	EQ1171L	AIR-CLD COND COMP 35-60 TONS	46.6	7.24
4	EQ1122L	AIR-CLD RECIP >55 TONS	183.8	28.59
Sub Total			308.3	47.95
Sub Total			0.0	0.00
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	22.7	3.53
2		SUMMATION OF FAN ELECTRICAL DEMAND	2.4	0.38
3		SUMMATION OF FAN ELECTRICAL DEMAND	3.6	0.56
4		SUMMATION OF FAN ELECTRICAL DEMAND	9.3	1.44
5		SUMMATION OF FAN ELECTRICAL DEMAND	9.6	1.49
Sub Total			47.6	7.40
Sub Total			0.0	0.00
Miscellaneous				
Lights			139.6	21.71
Base Utilities			0.0	0.00
Misc Equipment			147.6	22.95
Sub Total			287.1	44.66
Grand Total			642.9	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
BLDG G101, ECO #15

--- CALIFORNIA TITLE 24 COMPLIANCE REPORT ---

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 120,182
ACM Multiplier 1.025

-------------------------------------- E N E R G Y   U S E   S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	WATER (1000 gal)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	9,020.2	565,330.4	3.3	8.4	687,451.2	5.9
Primary Cooling						
Compressor	246,723.9	0.0	0.0	11.9	2,526,459.0	21.5
Tower/Cond Fans	29,749.0	0.0	0.0	1.4	304,630.8	2.6
Condenser Pump	0.0	0.0	0.0	0.0	0.0	0.0
Other Accessories	4,594.5	0.0	0.0	0.2	47,047.8	0.4
Auxiliary						
Supply Fans	416,647.3	0.0	0.0	20.0	4,266,477.5	36.4
Circulation Pumps	156,820.4	0.0	0.0	7.5	1,605,844.5	13.7
Base Utilities	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	573,467.6	0.0	0.0	27.6	5,872,322.0	50.1
Lighting	613,004.4	0.0	0.0	29.5	6,277,180.0	52.2
Receptacle	439,233.8	0.0	0.0	21.1	4,497,765.0	37.4
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0	0.0
Totals	1,915,793.6	565,330.4	3.3	100.0	20,212,856.0	170.1

BUILDING 207

E M C ENGINEERS, INC.

PROJECT: FORT McPHERSON & FORT GILLEM ESOS STUDY
LOCATION: FORT McPHERSON
ECO: Computer Simulation Summary

CLIENT CONTRACT NO: DACA21-91-C-0097
CLIENT PROJECT ENG: TERRY SEABROOK

EMC PROJECT: #3105.000
DATE: 04/21/92
FILE: G207ECO
PREPARED BY: DENNIS JONES
CHECKED BY:

Bldg: G207 Area: 298,599 ft^2

Run Description	Heating Gas Use (kBtu/yr)	Heating Electric Use (kWh/yr)	Cooling Electric Use (kWh/yr)	Fan Electric Use (kWh/yr)	Pump Electric Use (1) (kWh/yr)	Lighting Electric Use (kWh/yr)	Receot. Electric Use (kWh/yr)	Total Electric Use (kWh/yr)	Peak Electric Demand (kW)	Total Gas Use (MBtu/yr)	Total Energy Use (MBtu/yr)
Baseline	6,317,652	8,200	0	155,220	0	295,749	0	459,169	0	6,318	7,885
Wall Insulation	6,241,559	8,200	0	152,300	0	295,749	0	456,249	0	6,242	7,799
Savings (Loss)	76,093	0	0	2,920	0	0	0	2,920	0	76	86
Roof Insulation	2,208,442	6,937	0	47,943	0	295,749	0	350,629	0	2,208	3,405
Savings (Loss)	4,109,210	1,263	0	107,277	0	0	0	108,540	0	4,109	4,480
Insulated Glass	6,287,502	8,200	0	154,555	0	295,749	0	458,504	0	6,288	7,852
Savings (Loss)	30,150	0	0	665	0	0	0	665	0	30	32
Weatherstripping and Caulk	6,310,442	8,200	0	155,042	0	295,749	0	458,991	0	6,310	7,877
Savings (Loss)	7,210	0	0	178	0	0	0	178	0	7	8
Destratification Fans	5,806,827	7,984	0	219,168	0	295,749	0	522,901	0	5,807	7,591
Savings (Loss)	510,825	216	0	(63,948)	0	0	0	(63,732)	0	511	293
Radiant Heaters	6,010,785	7,794	0	0	0	295,749	0	303,543	0	6,011	7,047
Savings (Loss)	306,867	406	0	155,220	0	0	0	155,626	0	307	838
Loading Dock Seals	5,981,313	8,085	0	146,557	0	295,749	0	450,391	0	5,981	7,518
Savings (Loss)	336,339	115	0	8,663	0	0	0	8,778	0	336	366
Lighting Controls	6,532,542	8,239	0	149,773	0	159,705	0	317,717	0	6,533	7,617
Savings (Loss)	(214,890)	(39)	0	5,447	0	136,044	0	141,452	0	(215)	268
Continuous Boiler Operation	8,905,955	11,988	0	232,830	0	295,749	0	540,567	0	8,906	10,751
Savings (Loss)	(2,588,303)	(3,788)	0	(77,610)	0	0	0	(81,398)	0	(2,588)	(2,866)

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

ROOF & WALL INSULATION (ECO-1)

ADD 0-10 TO WALL "DRIVIT"

R-15.44 $\boxed{U = 0.065}$

ADD R-19 BATTS TO ROOF

R-20.93 $\boxed{U = 0.048}$

INSULATED GLASS (ECO-2)

LOWER LEVEL

$\boxed{SC = 0.38 \quad U = 0.51}$

WEATHERSTRIPPING & CAULK (ECO-3)

SPECIFIC INFILTRATION IS 1.53 cfm/in²

		in²/ft² EXIST	in²/ft² NEW	CFM EXIST	CFM NEW
(12) OH	DOORS 10'×11'	0.320	0.215	646	434
1952 ft²	GLASS	0.052	0.026	155	78
"	WINDOW FRAME	0.093	0.019	278	57
1320 ft²	DOOR "	0.093	0.019	188	38
				1267	607
				SAVE	560 cfm

@ 2,988,000 ft³ = 0.0133 ach

NEW 1.0 − 0.0133 = $\boxed{0.987 \text{ ACH}}$

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CALCULATED BY DATE

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SCALE 6207

ECO 2

DESTRATIFICATION FANS (ECO-10) ✓

MEASURED 58°F AT CEILING

65.6°F AT FLOOR

DROP UPPER ZONE FROM 68°F → 65°F

RADIANT HEATERS (ECO-14) ✓

SEPARATE CALCULATION

LOADING DOCK SEALS (ECO-14) ✓

ASSUME 5 TRUCKS AT BLDG

DOORS 10'W x 11'H → PERIM = 44 ft²

ASSUME 6" CRACK WITH TRUCK → 22 ft²/DOOR

TOTAL LEAK AREA = 110 ft² = 15,840 in² = L

$Q = L\sqrt{A\Delta t + BV^2}$

V — 11 mph

B — 0.0143 3 STORY – SHIELDING CLASS 3

Δt — 65 – 52 = 13°F

A — 0.0471 3 STORY

Q = L × 1.53 cfm/in² = 24,244 cfm

VOLUME = 20' × 844' × 177' = 2,988,000 ft³

} 0.49 ACH

LIGHTING CONTROLS (ECO-15) ✓

54% OF EXISTING × 106,817 = $\boxed{57,675 \text{ kW}}$

24 HR BOILER OPERATION (ECO-17)

<HTG>

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

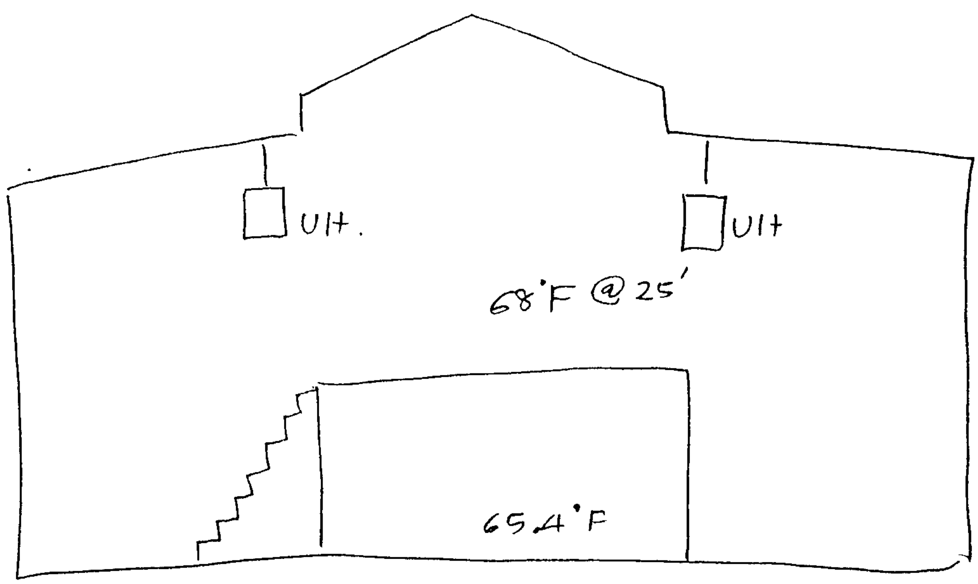
JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ #: EMC # 3105.000
SHEET NO: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1/3/92

BLDG.# 207
ECO 10

AIR STRATIFICATION

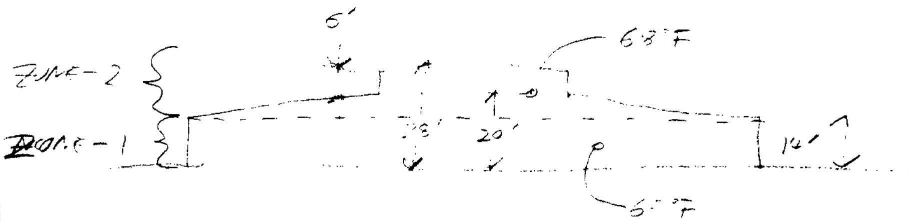
LOCATION	NORTHEND	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UNIT HEATER
TEMP. AT CEILING	68° F	OPP. HOURS	TO
TEMP. AT FLOOR	65.4° F	T'STAT GAS FIRE	

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: BAY 7

TRACE · 600 INPUT



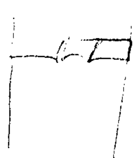
USE 24' AVG. HEIGHT

ROOF

OUTER FILM	0.25
BU ROOFING	0.33
1" GYP FIBER CONC	0.60
INNER FILM	0.75
	1.93

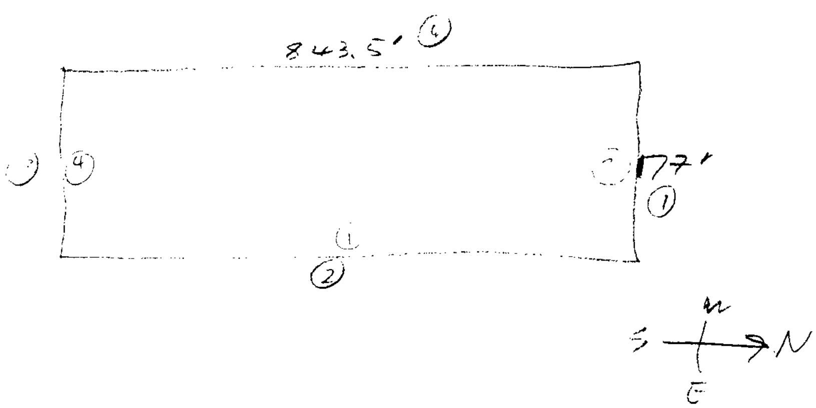
$\boxed{U = 0.518}$

WALLS



OUTER FILM	0.25
12" BRICK	4.44
INNER FILM	0.75
	5.44

$\boxed{U = 0.184}$



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JOB

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CALCULATED BY DATE

CHECKED BY DATE

SCALE

LOWER WINDOWS

(20)	6'×4'	480	704 ft²	NORTH & SOUTH
(14)	4'×4'	224		
(10)	6'×4'	240	272 ft²	EAST & WEST
(2)	4'×4'	32		

SINGLE PANE - METAL FRAME U = 1.23
SC = 1.0

CLEARSTORY WINDOWS

GREEN CORRUGATED FIBERGLASS
OVER CLEAR GLASS
DOUBLE GLAZED U = 0.49
SC = 0.20

2' × 843.5' NORTH & SOUTH

LIGHTS

(46) 8' - 2 LAMP FLUORESCENTS PER BAY (7) @ 210 WATTS

$46 \times 7 \times 210 / 1000 = 67.6$ kW

0[illegible]d - Job Information

Project: FORT MCPHERSON & GILLEM EEAP #3105.000
Location: ATLANTA, GA
Client: COE - DACA21-9-C-0097
Program User: DENNIS JONES
Comments: BUILDING 207 - FORT GILLEM - BASELINE

-----CARD 08-- Climatic Information ---

Weather Code	Summer Clearness Number	Winter Clearness Number	Summer Design Dry Bulb	Summer Design Wet Bulb	Winter Design Dry Bulb	Building Orientation	Summer Ground Reflect	Winter Ground Reflect
ATLANTA								

-------------------- Load Section Alternative #1 --------------------

---- Load Alternative ----

Number	Description
1	G207 - BASELINE

-----CARD 20-- General Room Parameters --

Room Number	Zone Reference Number	Room Descrip	Floor Length	Floor Width	Const Type	Plenum Height	Acoustic Ceiling Resistance	Floor to Floor Height	Duplicate Floors Multiplier	Duplicate Rooms per Zone	Perimeter Depth
1	1	LOWER LEVEL	843.5	177	2	0		14			
2	2	UPPER LEVEL	843.5	177	1	0		7			

-----CARD 21-- Thermostat Parameters --

Room Number	Cooling Room Design DB	Room Design RH	Cooling T'stat Driftpoint	Cooling T'stat Schedule	Heating Room Design DB	Heating T'stat Driftpoint	Heating T'stat Schedule	T'stat Location Flag	Mass / No. Hrs Average	Carpet On Floor
1					65		HTG65			NO
2					65		HTG68			NO

-----CARD 22-- Roof Parameters ---

Room Number	Roof Number	Roof Equal to Floor?	Roof Length	Roof Width	Roof U-Value	Const Type	Roof Direction	Roof Tilt	Roof Alpha
2	1	YES			0.518	47	0	90	0.45

-----CARD 24-- Wall Parameters --

Room Number	Wall Number	Wall Length	Wall Height	Wall U-Value	Wall Constuc Type	Wall Direction	Wall Tilt	Wall Alpha	Ground Reflectance Multiplier
1	1	177	14	0.184	72	0		0.68	
1	2	843.5	14	0.184	72	90		0.68	
1	3	177.5	14	0.184	72	180		0.68	
1	4	843.5	14	0.184	72	270		0.68	
2	1	843.5	6	0.184	72	270		0.68	
2	2	843.5	6	0.184	72	90		0.68	
2	3	177	10	0.184	72	0		0.68	
2	4	177	10	0.184	72	180		0.68	

-----CARD 25-- Wall/Glass Parameters --

Room Number	Wall Number	Glass Length	Glass Width	Pct Glass or No. of Windows	Glass U-Value	Shading Coefficient	External Shading Type	Internal Shading Type	Percent Solar to Ret. Air	Visible Transmittance	Inside Visible Reflectance
1	1	704	1	1	1.2	1					
1	2	272	1	1	1.2	1					
1	3	704	1	1	1.2	1.00					
1	4	272	1	1	1.2	1.00	3				
2	1	844	6	1	0.49	0.20					
2	2	844	6	1	0.49	0.20					

-----CARD 26-- Schedules --

Room Number	People	Lights	Ventilation	Infiltration	Reheat Minimum	Cooling Fans	Heating Fan	Auxiliary Fan	Room Exhaust	Daylighting Controls
M1	PPL1	LGT1		AVAIL		4T08	4T08		ON	

-----CARD 27-- People and Lights --

Room Number	People Value	People Units	People Sensible	People Latent	Lighting Value	Lighting Units	Lighting Fixture Type	Ballast Factor	Percent Lights to Ret. Air	--- Daylighting ---- Reference Point 1	Reference Point 2
1	30	PEOPLE	250	200							
2					106807	WATTS	SUSFLUOR	1			

-----CARD 29--- Room Airflows --

Room Number	-------------Ventilation------------- -----Cooling----- Value	Units	-----Heating----- Value	Units	-------------Infiltration------------ -----Cooling----- Value	Units	-----Heating----- Value	Units	--Reheat Minimum-- Value	Units
1					1.0	ACH-HR	1.0	ACH-HR		

-----CARD 29--- Room Airflows -----

Room Number	Ventilation Cooling Value	Ventilation Cooling Units	Ventilation Heating Value	Ventilation Heating Units	Infiltration Cooling Value	Infiltration Cooling Units	Infiltration Heating Value	Infiltration Heating Units	Reheat Minimum Value	Reheat Minimum Units
2					0.5	ACH-HR	0.5	ACH-HR		

-----CARD 32-- Exposed Floor Parameters-----

Room Number	Exposed Floor Number	Slab Perimeter Length	Slab Loss Coefficient	Exposed Floor Floor Area	Floor U-Value	Const Type	Temp Flag	Cooling Temp	Heating Temp	Adjacent Room No
1	1	2041	0.63							

-----CARD 33-- External Shading -----

Shading Type	Glass Height	Overhang Height Above Glass	Overhang Projection Out	Vertical Fins Glass Width	Projection Left	Left Projection Out	Projection Right	Right Projection Out	Adjacent Building Flag
3	4	5	12						

---------------- System Section Alternative #1 --------------------

-----CARD 39-- System Alternative -----

Number	Description
1	G207 - BASELINE

-----CARD 40--- System Type -----

System Set Number	System Type	Optional Ventilation System Ventil Deck Location	Cooling SADBVh	Heating SADBVh	Cooling Schedule	Heating Schedule	Fan Static Pressure
1	FC						

-----CARD 41-- Zone Assignment -----

System Set Number	Ref #1 Begin	Ref #1 End	Ref #2 Begin	Ref #2 End	Ref #3 Begin	Ref #3 End	Ref #4 Begin	Ref #4 End	Ref #5 Begin	Ref #5 End	Ref #6 Begin	Ref #6 End
1	1	2										

-----CARD 42--- Fan SP and Duct Parameters---

System Set Number	Cool Fan SP	Heat Fan SP	Return Fan SP	Mn Exh Fan SP	Aux Fan SP	Rm Exh Fan SP	Cool Fan Mtr Loc	Return Fan Mtr Loc	Supply Duct Ht Gn	Supply Duct Loc	Return Air Path
1	0.3	0.3									

-----CARD 43-- Airflow Design Temperatures ---

System Set Number	Minimum Cooling SADB	Maximum Cooling SADB	Minimum Heating SADB	Maximum Heating SADB	Minimum Cooling Lv DB	Maximum Cooling Lv DB	Minimum Preheat Lv DB	Maximum Preheat Lv DB	Minimum Room RH	Design Ht Rec Diff
1			130	130						

-----CARD 44-- System Options ---

System Set Number	Econ Type Flag	Econ On Point	Max Pct Outside Air	Direct Evap Cooling	Indirect Evap Cooling	1st Stage Evap Cooling	Fan Cycling	--------- Exhaust Air Heat Recovery --------- --- Effectiveness --- System	Room	--- Control Method --- System	Room
1	NONE										

-----CARD 45--- Equipment Schedules ---

System Set Number	Main Cooling Coil	Economizer	Direct Evap Coil	Indirect Evap Coil	Auxiliary Cooling Coil	Main Heating Coil	Main Preheat Coil	Reheat Coil	Mech. Humidity	Auxiliary Heating Coil
1	OFF	OFF				4TO8				

-----CARD 46--- EMS/BAS Schedules ---

System Set Number	Discrim Control Schedule	Night Purge Schedule	Optimum Start Schedule	Optimum Stop Schedule	--------DUTY CYCLING-------- On Period Schedule	Pattern Length	Maximum Off Time	System HR Exhaust Schedule	Room HR Exhaust Schedule
1									

-----CARD 49-- Heating Capacity Overrides ---

System Set Number	---MAIN HEATING--- Capacity Value	Capacity Units	-----PREHEAT------ Capacity Value	Capacity Units	------REHEAT------ Capacity Value	Capacity Units	--HUMIDIFICATION-- Capacity Value	Capacity Units	---AUX HEATING---- Capacity Value	Capacity Units
1	3000	MBH								

-------------------- Equipment Section Alternative #1 --------------------

-----CARD 59-- Equipment Description / TOD Schedules -----------------

Alternative Number	Elec Consump Time of Day Schedule	Elec Demand Time of Day Schedule	Demand Limit Max KW	Alternative Description

-----CARD 65-- Heating Load Assignment --

Load Assignment Reference	All Coil Loads To Heating Ref	-Group 1- Begin	End	-Group 2- Begin	End	-Group 3- Begin	End	-Group 4- Begin	End	-Group 5- Begin	End	-Group 6- Begin	End	-Group 7- Begin	End	-Group 8- Begin	End	-Group 9- Begin	End
1	1	1	1																

-----CARD 67-- Heating Equipment Parameters --

Heat Ref Number	Equip Code Name	Number Of Units	HW Pmp Full Ld Value	Units	Cap'y Value	Units	Energy Rate Value	Units	Seq Order Number	Switch over Control	Hot Strg	Misc. Acc.	Cogen	Demand Limit Number
1	EQ2001	1	1.5	HP	3000	MBH	80	PCTEFF						

-----CARD 69-- Fan Equipment Parameters --

System Set Number	Cooling Fan	Heating Fan	Return Fan	Exhaust Fan	Auxiliary Supply	Room Exhaust	Optional Ventilation
1	EQ4003	EQ4003					

Utility Description Reference Table

```
    Schedules:
        4TO8
        4TO8      (Utility file not found)
        AVAIL  AVAILABLE (100%)
        HTG65     (Utility file not found)
        HTG68  HEATING ONLY (T-STAT AT 68)
        LGT1
        OFF  ALWAYS OFF
        ON  AVAILABLE (100%)
        PPL1
    System:
        FC  FAN COIL
        Heating:
            EQ2001  GAS FIRE TUBE HOT WATER
        Fan:
            EQ4003    (Utility file not found)
```

Schedule Name: 4TO8
Project:
Location:
Client:
Program User:
Comments: NOV THRU APRIL - 4 AM TO 8 PM

Starting Month: NOV Ending Month: APR
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	0
4	100
20	0
24	

Schedule Name: AVAIL
Project: AVAILABLE (100)
Location:
Client:
Program User:
Comments:

Starting Month: JAN   Ending Month: HTG
Starting Day Type: DSGN   Ending Day Type: SUN

Hour	Util Percent
0	100
24	

Schedule Name: HTG68
Project: HEATING ONLY (T-STAT AT 68)
Location:
Client:
Program User:
Comments: HEATING ONLY SCHEDULE - T-STAT

Starting Month: JAN Ending Month: MAY
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Temperature
0	68
24	

Starting Month: JUN Ending Month: SEP
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Temperature
0	35
24	

Starting Month: OCT Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Temperature
0	68
24	

Schedule Name: LGT1
Project:
Location:
Client:
Program User:
Comments: OFFICE LIGHTING

Starting Month: JAN   Ending Month: DEC
Starting Day Type: DSGN   Ending Day Type: WKDY

Hour	Util Percent
0	5
7	80
8	100
12	80
13	100
16	80
17	40
18	5
24	

Starting Month: JAN   Ending Month: DEC
Starting Day Type: SAT   Ending Day Type: SUN

Hour	Util Percent
0	5
24	

Schedule Name: OFF
Project: ALWAYS OFF
Location:
Client:
Program User:
Comments:

Starting Month: JAN Ending Month: HTG
Starting Day Type: DSGN Ending Day Type: SUN

Hour	Util Percent
0	0
24	

Schedule Name: ON
Project: AVAILABLE (100)
Location:
Client:
Program User:
Comments:

Starting Month: JAN   Ending Month: DEC
Starting Day Type: DSGN   Ending Day Type: SUN

Hour	Util Percent
0	100
24	

Schedule Name: PPL1
Project:
Location:
Client:
Program User: D JONES
Comments: OFFICE PEOPLE SCHEDULE

Starting Month: JAN Ending Month: DEC
Starting Day Type: DSGN Ending Day Type: WKDY

Hour	Util Percent
0	0
7	50
8	100
11	80
12	40
13	80
14	100
16	70
17	30
18	0
24	

Starting Month: JAN Ending Month: DEC
Starting Day Type: SAT Ending Day Type: SUN

Hour	Util Percent
0	0
24	

```
***************************************************************************
***************************************************************************
**                                                                       **
**               T R A C E   6 0 0   A N A L Y S I S                     **
**                                                                       **
**                  by            **
**                                                                       **
***************************************************************************
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FORT MCPHERSON & GILLEM EEAP #3105.000
ATLANTA, GA
COE - DACA21-9-C-0097
DENNIS JONES
BUILDING 207 - FORT GILLEM - BASELINE

Weather File Code:	ATLANTA.
Location:	
Latitude:	33.0 (deg)
Longitude:	84.0 (deg)
Time Zone:	6
Elevation:	1,005 (ft)
Barometric Pressure:	28.8 (in. Hg)
Summer Clearness Number:	0.90
Winter Clearness Number:	0.90
Summer Design Dry Bulb:	92 (F)
Summer Design Wet Bulb:	74 (F)
Winter Design Dry Bulb:	22 (F)
Summer Ground Relectance:	0.20
Winter Ground Relectance:	0.20
Air Density:	0.0731 (Lbm/cuft)
Air Specific Heat:	0.2444 (Btu/lbm/F)
Density-Specific Heat Prod:	1.0727 (Btu-min./hr/cuft/F)
Latent Heat Factor:	4,721.8 (Btu-min./hr/cuft)
Enthalpy Factor:	4.3883 (Lb-min./hr/cuft)
Design Simulation Period:	June To November
System Simulation Period:	January To December
Cooling Load Methodology:	TETD/Time Averaging
Time/Date Program was Run:	6:57:34 3/20/92
Dataset Name:	G207 .TM

AIRFLOW - ALTERNATIVE 1
G207 - BASELINE

S Y S T E M   S U M M A R Y
(Design Airflow Quantities)

System Number	System Type	Main: Outside Airflow (Cfm)	Main: Cooling Airflow (Cfm)	Main: Heating Airflow (Cfm)	Main: Return Airflow (Cfm)	Main: Exhaust Airflow (Cfm)	Auxil. Supply Airflow (Cfm)	Room Exhaust Airflow (Cfm)
1	FC	0	417,430	417,430	460,976	43,546	0	0
Totals		0	417,430	417,430	460,976	43,546	0	0

CAPACITY - ALTERNATIVE 1
G207 - BASELINE

S Y S T E M   S U M M A R Y
(Design Capacity Quantities)

System Number	System Type	Cooling: Main Sys. Capacity (Tons)	Cooling: Aux. Sys. Capacity (Tons)	Cooling: Opt. Vent Capacity (Tons)	Cooling Totals (Tons)	Heating: Main Sys. Capacity (Btuh)	Heating: Aux. Sys. Capacity (Btuh)	Heating: Preheat Capacity (Btuh)	Heating: Reheat Capacity (Btuh)	Heating: Humidif. Capacity (Btuh)	Heating: Opt. Vent Capacity (Btuh)	Heating Totals (Btuh)
1	FC	563.7	0.0	0.0	563.7	-3,000,000	0	0	0	0	0	-3,000,000
Totals		563.7	0.0	0.0	563.7	-3,000,000	0	0	0	0	0	-3,000,00[illegible]

The building peaked at hour 14 month 6 with a capacity of 563.7 tons

ENGINEERING CHECKS - ALTERNATIVE 1
G207 - BASELINE

E N G I N E E R I N G   C H E C K S

System Number	Main/ Auxiliary	System Type	Percent Outside Air	Cooling: Cfm/ Sq Ft	Cooling: Cfm/ Ton	Cooling: Sq Ft /Ton	Cooling: Btuh/ Sq Ft	Heating: Cfm/ Sq Ft	Heating: Btuh/ Sq Ft	Floor Area Sq Ft
1	Main	FC	0.00	1.40	740.5	529.7	22.65	1.40	-10.05	298,599

System 1 Block FC - FAN COIL

************************* COOLING COIL PEAK ******************************** CLG SPACE PEAK ************ HEATING COIL PEAK ********

	COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK		
Peaked at Time ==>	Mo/Hr: 6/14					Mo/Hr: 6/14		Mo/Hr: 13/ 1		
Outside Air ==>	OADB/WB/HR: 96/ 73/ 91.0					OADB: 96		OADB: 22		
Envelope Loads	Space Sens.+Lat. (Btuh)	Ret. Air Sensible (Btuh)	Ret. Air Latent (Btuh)	Net Total (Btuh)	Percnt Of Tot (%)	Space Sensible (Btuh)	Percnt Of Tot (%)	Space Peak Space Sens (Btuh)	Coil Peak Tot Sens (Btuh)	Percnt Of Tot (%)
Skylite Solr	0	0		0	0.00	0	0.00	0	0	0.00
Skylite Cond	0	0		0	0.00	0	0.00	0	0	0.00
Roof Cond	4,122,070	0		4,122,070	60.94	4,122,070	67.47	-3,325,497	-3,325,497	11.43
Glass Solar	243,936	0		243,936	3.61	234,176	3.83	0	0	0.00
Glass Cond	150,425	0		150,425	2.22	151,830	2.49	-334,165	-334,165	1.15
Wall Cond	219,637	0		219,637	3.25	244,625	4.00	-238,697	-238,697	0.82
Partition	0			0	0.00	0	0.00	0	0	0.00
Exposed Floor	0			0	0.00	0	0.00	-55,291	-55,291	0.19
Infiltration	1,652,943			1,652,943	24.44	984,659	16.12	-2,008,554	-2,008,554	6.90
Sub Total==>	6,389,010	0		6,389,010	94.45	5,737,360	93.91	-5,962,204	-5,962,204	20.49
Internal Loads										
Lights	364,532	0		364,532	5.39	364,532	5.97	0	0	0.00
People	10,800			10,800	0.16	7,500	0.12	0	0	0.00
Misc	0	0	0	0	0.00	0	0.00	0	0	0.00
Sub Total==>	375,332	0	0	375,332	5.55	372,032	6.09	0	0	0.00
Ceiling Load	0	0		0	0.00	0	0.00	0	0	0.00
Outside Air	0	0	0	0	0.00	0	0.00	0	0	0.00
Sup. Fan Heat				0	0.00		0.00		0	0.00
Ret. Fan Heat		0		0	0.00		0.00		0	0.00
Duct Heat Pkup		0		0	0.00		0.00		0	0.00
OV/UNDR Sizing	0			0	0.00	0	0.00	-23,142,764	-23,142,764	79.51
Exhaust Heat		0	0	0	0.00		0.00		0	0.00
Terminal Bypass		0	0	0	-0.00		0.00		0	0.00
Grand Total==>	6,764,342	0	0	6,764,342	100.00	6,109,393	100.00	-29,104,968	-29,104,968	100.00

COOLING COIL SELECTION

	Total Capacity (Tons)	(Mbh)	Sens Cap. (Mbh)	Coil Airfl (cfm)	Entering DB/WB/HR Deg F	Deg F	Grains	Leaving DB/WB/HR Deg F	Deg F	Grains
Main Clg	563.7	6,764.3	6,068.8	417,430	75.1	62.7	68.7	61.2	57.3	66.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	563.7	6,764.3								

AREAS

	Gross Total	Glass (sf)	(%)
Floor	298,599		
Part	0		
ExFlr	2,041		
Roof	149,300	0	0
Wall	42,243	12,074	29

HEATING COIL SELECTION

	Capacity (Mbh)	Coil Airfl (cfm)	Ent Deg F	Lvg Deg F
Main Htg	-3,000.0	417,430	123.3	130.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-0.0	417,430	65.0	61.2
Reheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-3,000.0			

AIRFLOWS (cfm)

Type	Cooling	Heating
Vent	0	0
Infil	43,546	43,546
Supply	417,430	417,430
Mincfm	0	0
Return	417,430	417,430
Exhaust	0	0
Rm Exh	0	0
Auxil	0	0

ENGINEERING CHECKS

Clg % OA	0.0
Clg Cfm/Sqft	1.40
Clg Cfm/Ton	740.52
Clg Sqft/Ton	529.72
Clg Btuh/Sqft	22.65
No. People	30
Htg % OA	0.0
Htg Cfm/SqFt	1.40
Htg Btuh/SqFt	-10.05

TEMPERATURES (F)

Type	Clg	Htg
SADB	61.4	130.0
Plenum	75.0	65.0
Return	75.0	65.0
Ret/OA	75.0	65.0
Runarnd	75.0	65.0
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.1	0.1

HEATING LOADS AT COIL PEAK - ALTERNATIVE 1
G207 - BASELINE

A I R F L O W H E A T I N G L O A D S
(At time of Coil Peak)

Room Number	Description	Ventilation Airflow (Cfm)	Ventilation Sensible (Btuh)	Op. Vent. Airflow (Cfm)	Op. Vent. Sensible (Btuh)	Reheat Airflow (Cfm)	Reheat Sensible (Btuh)	Humidif. Airflow (Cfm)	Humidif. Latent (Btuh)	Total (Btuh)
1	LOWER LEVEL	0	0	0	0	0	0	0	0	0
Zone 1	Total/Ave.	0	0	0	0	0	0	0	0	0
Zone 1	Block	0	0	0	0	0	0	0	0	0
2	UPPER LEVEL	0	0	0	0	0	0	0	0	0
Zone 2	Total/Ave.	0	0	0	0	0	0	0	0	0
Zone 2	Block	0	0	0	0	0	0	0	0	0
System 1	Total/Ave.	0	0	0	0	0	0	0	0	0
System 1	Block	0	0	0	0	0	0	0	0	0

HEATING AIRFLOW HEAT GAIN/LOSS - ALTERNATIVE 1
G207 - BASELINE

A I R F L O W H E A T G A I N A N D L O S S
(At time of Coil Peak)

Room Number	Description	Heating: Supply Fan Heat (Btuh)	Return Fan Heat (Btuh)	System Exhaust Heat Loss (Btuh)	Total (Btuh)	System Exhaust Airflow (Cfm)	Room Exhaust Airflow (Cfm)	Ducted Airflow (Cfm)	Plenum Airflow (Cfm)	Run Around Airflow (Cfm)	Corridr Airflow (Cfm)	System Return Airflow (Cfm)
1	LOWER LEVEL	0	0	0	0	0	0	53,304	0	0	0	53,304
Zone 1	Total/Ave.	0	0	0	0	0	0	53,304	0	0	0	53,304
Zone 1	Block	0	0	0	0	0	0	53,304	0	0	0	53,304
2	UPPER LEVEL	0	0	0	0	0	0	364,127	0	0	0	364,127
Zone 2	Total/Ave.	0	0	0	0	0	0	364,127	0	0	0	364,127
Zone 2	Block	0	0	0	0	0	0	364,127	0	0	0	364,127
System 1	Total/Ave.	0	0	0	0	0	0	417,430	0	0	0	417,430
System 1	Block	0	0	0	0	0	0	417,430	0	0	0	417,430

PSYCHROMETRICS - ALTERNATIVE 1
- BASELINE

-------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S --------------

Room 1

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	75.0	64.3	56.7	76.6	30.0	
Main System						
Return Air Heat Pickup						0.0
Return Fan						0.0
Return Air	75.0	64.3	56.7	76.6	30.0	
Outdoor Air	92.3	74.4	44.2	105.0	38.7	
Return/Outdoor Air Mix	75.0	64.3	56.7	76.6	30.0	
Blow through Fan						0.1
Entering Coil	75.1	64.3	56.5	76.6	30.0	
Leaving Coil	54.9	53.6	92.5	61.9	22.8	
Draw Through Fan						0.0
Duct Frictional Heat						0.1
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	55.0	53.7	92.2	61.9	22.8	
Supply Air	55.0	53.7	92.2	61.9	22.8	

ent Outside Air	0.00	(%)
ible Heat Ratio (SHR)	0.672	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	53,304	(Cfm)

****
* THE PSYCHROMETRIC LOOP DID NOT CLOSE *
* SUPPLY AIR TEMPERATURE RESET *
****

ROOM PSYCHROMETRICS - ALTERNATIVE 1
G207 - BASELINE

------------- P S Y C H R O M E T R I C   S T A T E   P O I N T S --------------

Room 2

	Dry Bulb (F)	Wet Bulb (F)	Relat. Humid. (%)	Humid. Ratio (GR)	Enthalpy (Btu/Lb)	Temp. Diff. (F)
Space	75.0	62.4	50.0	67.5	28.5	
Main System						
Return Air Heat Pickup						0.0
Return Fan						0.0
Return Air	75.0	62.4	50.0	67.5	28.5	
Outdoor Air	95.6	73.0	34.7	91.0	37.3	
Return/Outdoor Air Mix	75.0	62.4	50.0	67.5	28.5	
Blow through Fan						0.1
Entering Coil	75.1	62.4	49.9	67.5	28.6	
Leaving Coil	62.2	57.8	77.4	67.3	25.4	
Draw Through Fan						0.0
Duct Frictional Heat						0.1
Supply Duct Heat Gain						0.0
Cold Deck Supply Air	62.3	57.8	77.1	67.3	25.4	
Supply Air	62.3	57.8	77.1	67.3	25.4	

Percent Outside Air	0.00	(%)
Sensible Heat Ratio (SHR)	0.973	
Percent Supply Air Bypassing Coil	0.00	(%)
Coil Airflow	364,127	(Cfm)

BUILDING U-VALUES - ALTERNATIVE 1
G207 - BASELINE

-------------------------------- B U I L D I N G   U - V A L U E S --------------------------------

Room Number	Description	Part.	ExFlr	Summr Skylt	Wintr Skylt	Roof	Summr Windo	Wintr Windo	Wall	Ceil.	Room Mass (lb/ sqft)	Room Capac. (Btu/ sqft/F)
		Room U-Values (Btu/hr/sqft/F)										
1	LOWER LEVEL	0.000	0.630	0.000	0.000	0.000	1.200	1.333	0.184	0.000	14.3	2.77
Zone	1 Total/Ave.	0.000	0.630	0.000	0.000	0.000	1.200	1.333	0.184	0.000	14.3	2.77
2	UPPER LEVEL	0.000	0.000	0.000	0.000	0.518	0.490	0.511	0.184	0.000	13.5	5.81
Zone	2 Total/Ave.	0.000	0.000	0.000	0.000	0.518	0.490	0.511	0.184	0.000	13.5	5.81
System	1 Total/Ave.	0.000	0.630	0.000	0.000	0.518	0.605	0.644	0.184	0.000	13.9	4.29
Building		0.000	0.630	0.000	0.000	0.518	0.605	0.644	0.184	0.000	13.9	4.29

BUILDING AREAS - ALTERNATIVE 1
G207 - BASELINE

--- B U I L D I N G   A R E A S ---

Room Number	Description	Number of Duplicate Flr	Number of Duplicate Rm	Floor Area/Dupl Room (sqft)	Total Floor Area (sqft)	Partition Area (sqft)	Exposed Floor Area (sqft)	Skylight Area (sqft)	Skl /Rf (%)	Net Roof Area (sqft)	Window Area (sqft)	Win /Wl (%)	Net Wall Area (sqft)
1	LOWER LEVEL	1	1	149,300	149,300	0	2,041	0	0	0	1,952	7	26,629
Zone	1 Total/Ave.				149,300	0	2,041	0	0	0	1,952	7	26,629
2	UPPER LEVEL	1	1	149,300	149,300	0	0	0	0	149,300	10,122	74	3,540
Zone	2 Total/Ave.				149,300	0	0	0	0	149,300	10,122	74	3,540
System	1 Total/Ave.				298,599	0	2,041	0	0	149,300	12,074	29	30,169
Building					298,599	0	2,041	0	0	149,300	12,074	29	30,169

ASHRAE 90 ANALYSIS - ALTERNATIVE 1
G207 - BASELINE

-------------- A S H R A E   9 0   A N A L Y S I S ---------------

Overall Roof U-Value = 0.518 (Btu/Hr/Sq Ft/F)
Overall Wall U-Value = 0.304 (Btu/Hr/Sq Ft/F)
Overall Building U-Value = 0.471 (Btu/Hr/Sq Ft/F)

Roof Overall Thermal Transfer Value (OTTVr) = 47.78 (Btu/Hr/Sq Ft)
Wall Overall Thermal Transfer Value (OTTVw) = 20.59 (Btu/Hr/Sq Ft)

SYSTEM LOAD PROFILE - ALTERNATIVE 1
G207 - BASELINE

Main System 1 FC FAN COIL

Percent Design Load	---- Cooling Load ----			------ Heating Load ------			---- Cooling Airflow -----			---- Heating Airflow -----		
	Cap. (Ton)	Hours (%)	Hours	Capacity (Btuh)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours	Cap. (Cfm)	Hours (%)	Hours
0 - 5	28.2	0	0	-150,000	7	158	20,871.5	0	0	0.0	0	0
5 - 10	56.4	0	0	-300,000	2	54	41,743.0	0	0	0.0	0	0
10 - 15	84.6	0	0	-450,000	9	225	62,614.5	0	0	0.0	0	0
15 - 20	112.7	0	0	-600,000	2	46	83,486.0	0	0	0.0	0	0
20 - 25	140.9	0	0	-750,000	2	44	104,357.5	0	0	0.0	0	0
25 - 30	169.1	0	0	-900,000	0	0	125,229.0	0	0	0.0	0	0
30 - 35	197.3	0	0	-1,050,000	3	83	146,100.5	0	0	0.0	0	0
35 - 40	225.5	0	0	-1,200,000	1	28	166,972.1	0	0	0.0	0	0
40 - 45	253.7	0	0	-1,350,000	3	67	187,843.6	0	0	0.0	0	0
45 - 50	281.8	0	0	-1,500,000	2	50	208,715.1	0	0	0.0	0	0
50 - 55	310.0	0	0	-1,650,000	2	51	229,586.6	0	0	0.0	0	0
55 - 60	338.2	0	0	-1,800,000	1	25	250,458.1	0	0	0.0	0	0
60 - 65	366.4	0	0	-1,950,000	1	30	271,329.6	0	0	0.0	0	0
65 - 70	394.6	0	0	-2,100,000	2	51	292,201.1	0	0	0.0	0	0
70 - 75	422.8	0	0	-2,250,000	2	50	313,072.7	0	0	0.0	0	0
75 - 80	451.0	0	0	-2,400,001	1	21	333,944.2	0	0	0.0	0	0
80 - 85	479.1	0	0	-2,550,000	4	90	354,815.7	0	0	0.0	0	0
85 - 90	507.3	0	0	-2,700,001	4	93	375,687.2	0	0	0.0	0	0
90 - 95	535.5	0	0	-2,850,000	1	24	396,558.7	0	0	0.0	0	0
95 - 100	563.7	0	0	-3,000,000	51	1,219	417,430.2	100	2,896	0.0	0	0
Hours Off	0.0	0	8,760	0	0	6,351	0.0	0	5,864	0.0	0	8,760

[illegible]DING COOL-HEAT DEMAND - ALTERNATIVE 1
[illegible]- BASELINE

January			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	33.4	30.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	32.1	29.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	31.7	29.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	31.9	29.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	32.6	30.3	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
6	33.6	31.3	-3,000,001	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
7	35.0	32.6	-3,000,001	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
8	36.6	34.4	-3,000,000	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
9	38.5	36.3	-3,000,000	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0
10	40.4	37.7	-3,000,000	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0	-2,999,999	0.0
11	42.3	38.7	-3,000,000	0.0	-3,000,000	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,000	0.0
12	44.2	39.6	-1,671,055	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
13	45.8	40.5	-390,510	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
14	47.2	41.1	-392,342	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
15	48.2	41.6	-390,206	0.0	-1,099,761	0.0	-3,000,000	0.0	-3,000,000	0.0	-1,311,497	0.0
16	48.9	41.8	-385,015	0.0	-1,029,321	0.0	-1,588,414	0.0	-1,588,414	0.0	-1,029,321	0.0
17	49.1	41.9	-383,084	0.0	-1,573,079	0.0	-1,846,474	0.0	-1,846,474	0.0	-1,573,079	0.0
18	48.7	41.9	-383,084	0.0	-2,046,448	0.0	-2,174,039	0.0	-2,174,039	0.0	-2,046,448	0.0
19	47.4	41.7	-2,010,847	0.0	-2,405,937	0.0	-2,405,937	0.0	-2,405,937	0.0	-2,405,937	0.0
20	45.5	40.5	-2,344,434	0.0	-2,558,474	0.0	-2,558,474	0.0	-2,558,474	0.0	-2,558,474	0.0
21	43.1	38.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	40.4	36.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	37.7	34.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	35.3	32.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

February			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	37.5	34.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	36.0	33.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	34.7	31.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	33.6	30.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	32.8	30.1	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
6	32.2	29.8	-3,000,001	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
7	32.1	29.6	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
8	32.5	30.3	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0	-2,999,999	0.0
9	33.9	31.6	-2,999,999	0.0	-2,999,999	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0
10	36.0	33.0	-3,000,000	0.0	-3,000,001	0.0	-2,999,999	0.0	-2,999,999	0.0	-3,000,001	0.0
11	38.5	34.8	-3,000,000	0.0	-3,000,000	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,000	0.0
12	41.3	36.5	-2,178,139	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
13	43.8	38.1	-394,747	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
14	45.9	39.5	-396,207	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
15	47.2	40.4	-393,782	0.0	-1,323,369	0.0	-3,000,000	0.0	-3,000,000	0.0	-1,400,536	0.0
16	47.7	40.6	-387,556	0.0	-976,724	0.0	-1,609,438	0.0	-1,609,438	0.0	-976,724	0.0
17	47.5	40.2	-383,084	0.0	-1,377,560	0.0	-1,650,955	0.0	-1,650,955	0.0	-1,377,560	0.0
18	47.0	39.8	-383,084	0.0	-2,095,758	0.0	-2,223,348	0.0	-2,223,348	0.0	-2,095,758	0.0
19	46.2	39.9	-574,013	0.0	-2,435,463	0.0	-2,435,463	0.0	-2,435,463	0.0	-2,435,463	0.0
[illegible]	45.1	39.7	-2,426,448	0.0	-2,591,217	0.0	-2,591,217	0.0	-2,591,217	0.0	-2,591,217	0.0
[illegible]	43.8	39.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	42.3	38.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	40.7	37.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	39.1	35.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
G207 - BASELINE

March			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	45.4	41.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	43.3	39.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	41.6	38.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	40.6	37.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	40.2	37.3	-3,000,001	0.0	-3,000,000	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0
6	40.6	37.8	-3,000,001	0.0	-3,000,000	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
7	41.6	39.0	-3,000,000	0.0	-3,000,000	0.0	-2,999,999	0.0	-3,000,001	0.0	-3,000,001	0.0
8	43.3	40.7	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
9	45.4	42.5	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
10	47.9	44.3	-2,088,946	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
11	50.6	45.5	-400,680	0.0	-1,332,604	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
12	53.3	46.8	-405,803	0.0	-387,604	0.0	-1,370,808	0.0	-1,475,566	0.0	-387,750	0.0
13	55.8	48.5	-407,805	0.0	-390,200	0.0	-387,691	0.0	-387,691	0.0	-390,328	0.0
14	58.0	49.6	-383,084	0.0	-392,804	0.0	-389,770	0.0	-389,770	0.0	-392,920	0.0
15	59.6	50.3	-383,084	0.0	-392,005	0.0	-389,249	0.0	-389,249	0.0	-392,110	0.0
16	60.7	50.9	-383,083	0.0	-388,641	0.0	-386,141	0.0	-386,141	0.0	-388,739	0.0
17	61.0	50.9	-383,083	0.0	-383,837	0.0	-272,440	0.0	-272,440	0.0	-219,554	0.0
18	60.7	50.7	-383,083	0.0	-219,808	0.0	-76,170	0.0	-76,170	0.0	-73,921	0.0
19	59.6	50.7	-381,059	0.0	-140,871	0.0	-140,871	0.0	-140,871	0.0	-140,871	0.0
20	58.0	50.5	-204,206	0.0	-160,520	0.0	-936,106	0.0	-936,106	0.0	-160,520	0.0
21	55.8	49.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	53.3	47.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	50.6	45.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	47.9	43.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

April			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	57.7	53.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	55.9	52.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	54.2	51.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	52.9	50.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	51.9	49.6	-3,000,000	0.0	-1,041,799	0.0	-2,616,916	0.0	-2,616,916	0.0	-2,616,916	0.0
6	51.2	49.2	-3,000,000	0.0	-1,715,184	0.0	-2,616,916	0.0	-2,616,916	0.0	-2,848,261	0.0
7	51.0	49.3	-3,000,000	0.0	-1,408,976	0.0	-2,383,690	0.0	-2,725,694	0.0	-2,794,277	0.0
8	51.6	49.9	-1,003,761	0.0	-637,872	0.0	-911,276	0.0	-1,272,556	0.0	-995,406	0.0
9	53.3	50.6	-15,140	0.0	-48,234	0.0	-394,540	0.0	-503,583	0.0	-149,780	0.0
10	55.9	51.8	-23,407	0.0	0	0.0	0	0.0	-50,448	0.0	-46,633	0.0
11	59.0	53.4	-28,852	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	62.4	55.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	65.5	57.7	0	0.0	-15,944	0.0	0	0.0	0	0.0	-15,973	0.0
14	68.1	59.4	0	0.0	-17,685	0.0	-15,144	0.0	-15,150	0.0	-17,709	0.0
15	69.8	60.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	70.4	60.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	70.2	60.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	69.5	60.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	68.5	59.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	67.2	59.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	65.5	59.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	63.7	58.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	61.7	57.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	59.7	55.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

[illegible]DING COOL-HEAT DEMAND - ALTERNATIVE 1
[illegible] - BASELINE

May			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	66.6	62.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	64.5	60.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	62.7	59.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	61.2	58.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	60.0	57.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	59.3	56.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	59.0	56.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	59.5	56.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	60.9	56.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	63.0	57.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	65.7	58.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	68.7	59.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	71.7	61.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	74.5	63.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	76.6	64.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	78.0	65.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	78.5	65.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	78.2	65.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	77.5	65.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	76.3	66.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	74.8	67.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	73.0	66.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	70.9	65.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	68.7	64.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

June			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	73.0	67.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	71.2	66.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	69.7	65.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	68.5	64.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	67.8	64.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	67.6	64.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	68.1	64.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	69.4	65.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	71.6	66.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	74.2	67.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	77.2	68.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	80.2	70.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	82.8	70.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	85.0	71.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	86.3	72.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	86.8	72.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	86.6	71.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	85.8	71.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	84.7	71.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	83.2	71.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	81.4	71.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	79.3	71.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	77.2	70.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	75.1	69.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
G207 - BASELINE

July			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	72.0	69.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	70.5	68.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	69.4	67.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	68.5	66.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	67.9	66.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	67.7	65.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	68.1	66.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	69.1	67.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	70.8	68.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	72.9	69.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	75.2	70.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	77.5	71.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	79.6	72.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	81.3	73.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	82.3	73.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	82.7	73.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	82.5	73.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	82.0	72.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	81.1	73.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	79.9	73.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	78.5	73.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	76.9	73.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	75.2	71.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	73.5	70.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

August			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	72.7	70.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	71.2	69.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	69.9	68.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	68.8	67.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	68.0	66.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	67.5	66.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	67.3	66.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	67.8	66.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	69.1	67.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	71.2	67.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	73.8	68.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	76.5	70.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	79.1	71.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	81.1	72.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	82.5	73.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	83.0	73.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	82.8	73.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	82.3	73.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	81.5	73.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	80.4	73.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	79.1	74.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	77.6	73.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	76.0	72.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	74.3	71.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

B[illegible]DING COOL-HEAT DEMAND - ALTERNATIVE 1
[illegible]- BASELINE

September			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	69.8	66.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	68.0	64.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	66.3	63.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	64.9	61.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	63.9	61.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	63.2	61.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	63.0	60.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	63.4	61.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	64.7	61.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	66.6	62.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	69.1	62.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	71.8	63.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	74.5	65.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	77.0	67.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	78.9	68.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	80.2	68.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	80.6	68.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	80.4	68.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	79.7	70.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	78.7	71.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	77.3	71.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	75.6	70.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	73.7	69.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	71.8	67.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

October			------ Design -----		----- Weekday -----		----- Saturday----		------ Sunday -----		------ Monday -----	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	54.8	51.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	52.9	49.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	51.2	48.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	49.8	47.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	48.8	46.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	48.2	45.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	47.9	45.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	48.5	46.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	50.3	47.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	52.9	48.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11	56.2	49.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12	59.6	51.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	62.9	53.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	65.5	55.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	67.3	56.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	67.9	56.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	67.7	56.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	67.0	56.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	66.0	57.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	64.6	57.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
[illegible]	62.9	57.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	61.0	56.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	59.0	54.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	56.9	53.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL-HEAT DEMAND - ALTERNATIVE 1
G207 - BASELINE

November			Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	48.7	45.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	46.9	44.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	45.5	42.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	44.6	41.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	44.4	42.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,001	0.0	-3,000,001	0.0	-3,000,001	0.0
6	44.8	42.7	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
7	45.9	43.9	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
8	47.8	46.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
9	50.2	48.0	-2,814,831	0.0	-2,961,015	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
10	52.9	49.9	-388,778	0.0	-2,267,478	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
11	55.8	51.1	-395,912	0.0	-32,391	0.0	-2,598,462	0.0	-2,598,462	0.0	-1,447,584	0.0
12	58.5	52.0	-133,777	0.0	0	0.0	-384,338	0.0	-384,338	0.0	-388,012	0.0
13	60.9	52.5	-20,096	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	62.8	53.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15	64.0	53.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16	64.4	53.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	64.1	53.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18	63.2	53.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	61.8	54.2	0	0.0	0	0.0	-474,221	0.0	-474,221	0.0	0	0.0
20	60.0	53.6	0	0.0	-58,062	0.0	-901,728	0.0	-901,728	0.0	-86,890	0.0
21	57.9	52.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	55.6	51.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	53.2	49.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	50.8	47.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

December			Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton	Htg Btuh	Clg Ton
1	37.5	35.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	37.1	35.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	37.4	35.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	38.1	36.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	39.3	37.6	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
6	40.9	39.2	-2,999,999	0.0	-3,000,001	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
7	42.7	41.2	-3,000,000	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
8	44.7	43.1	-3,000,000	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0	-2,999,999	0.0
9	46.8	45.3	-3,000,000	0.0	-3,000,000	0.0	-2,999,999	0.0	-2,999,999	0.0	-3,000,001	0.0
10	48.8	47.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
11	50.7	48.1	-2,096,926	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
12	52.2	48.8	-390,730	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0	-3,000,000	0.0
13	53.4	49.2	-393,308	0.0	-659,574	0.0	-2,803,254	0.0	-2,803,254	0.0	-1,267,444	0.0
14	54.1	49.2	-394,881	0.0	-384,877	0.0	-558,911	0.0	-558,911	0.0	-384,877	0.0
15	54.4	48.9	-391,496	0.0	-383,253	0.0	-697,244	0.0	-697,244	0.0	-383,253	0.0
16	54.0	48.2	-384,937	0.0	-583,874	0.0	-1,101,573	0.0	-1,101,573	0.0	-583,874	0.0
17	53.0	47.3	-272,044	0.0	-1,313,488	0.0	-1,586,892	0.0	-1,586,892	0.0	-1,313,488	0.0
18	51.4	46.3	-224,380	0.0	-1,860,370	0.0	-1,987,960	0.0	-1,987,960	0.0	-1,860,370	0.0
19	49.3	45.4	-334,305	0.0	-2,151,766	0.0	-2,151,766	0.0	-2,151,766	0.0	-2,151,766	0.0
20	47.0	43.5	-1,633,814	0.0	-2,401,953	0.0	-2,401,953	0.0	-2,401,953	0.0	-2,401,953	0.0
21	44.5	41.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	42.2	39.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	40.1	37.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	38.5	36.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING TEMPERATURE PROFILES - ALTERNATIVE 1
BASELINE

---------------------------------- B U I L D I N G   T E M P E R A T U R E   P R O F I L E S ----------------------------------

Temperature Range (F)	Room Number 1	Room Number 2
Max. Temp.	85.8	103.2
Mo./Hr.	7 19	6 18
Day Type	1	1
	Number of Hours	
Above 100	0	0
95 - 100	0	0
90 - 95	0	336
85 - 90	0	679
80 - 85	1,610	1,053
75 - 80	1,193	1,124
70 - 75	903	939
65 - 70	1,360	2,056
60 - 65	2,100	1,034
55 - 60	1,267	850
50 - 55	327	585
Below 50	0	104
Min. Temp.	53.0	48.2
Mo./Hr.	2 6	1 4
Day Type	5	3

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - BASELINE

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	53,781	165	16,144	38
Feb	48,608	165	14,588	38
March	55,757	165	8,987	38
April	50,125	165	2,617	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	50,569	165	7,255	38
Dec	52,793	165	13,585	38
Total	462,663	165	63,177	38

Building Energy Consumption = 26,446 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 38,138 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- BASELINE

---------------------------------- E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ----------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003 FC CENTRIF. FAN C.V.													
	ELEC	26585	24012	26585	25727	0	0	0	0	0	0	25727	26585	155,220
	PK	53.6	53.6	53.6	53.6	0.0	0.0	0.0	0.0	0.0	0.0	53.6	53.6	53.6
1	EQ4003 FC CENTRIF. FAN C.V.													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001 GAS FIRE TUBE HOT WATER													
	GAS	16144	14588	8987	2617	0	0	0	0	0	0	7255	13585	63,177
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020 HEAT WATER CIRC. PUMP C.V.													
	ELEC	740	668	740	237	0	0	0	0	0	0	370	740	3,494
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240 BOILER FORCED DRAFT FAN													
	ELEC	1488	1344	1488	477	0	0	0	0	0	0	744	1488	7,029
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- BASELINE

ELEC	248	224	248	80	0	0	0	0	0	0	124	248	1,172
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - BASELINE

U T I L I T Y   P E A K   C H E C K S U M S

Utility   ELECTRIC DEMAND

Peak Value   165.4   (kW)
Yearly Time of Peak   9 (hr)   1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.02
Sub Total			5.0	3.02
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	53.6	32.41
Sub Total			53.6	32.41
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	64.58
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	64.58
Grand Total			165.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
- BASELINE

--- CALIFORNIA TITLE 24 COMPLIANCE REPORT ---

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

------------------------------------- E N E R G Y   U S E   S U M M A R Y -------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,200.5	6,317,652.5	80.4	6,734,134.0	23.1
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	155,220.0	0.0	6.7	1,589,456.1	5.5
Circulation Pumps	3,494.4	0.0	0.2	35,782.3	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	158,714.3	0.0	6.9	1,625,238.5	5.6
Lighting	295,748.6	0.0	12.8	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	462,663.4	6,317,652.5	100.0	11,387,845.0	38.8

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - WALL INSULATION

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	53,281	164	15,930	38
Feb	48,156	164	14,392	38
March	55,257	164	8,951	38
April	49,641	164	2,617	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	50,085	164	7,172	38
Dec	52,293	164	13,353	38
Total	459,743	164	62,416	38

Building Energy Consumption = 26,158 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 37,769 (Btu/Sq Ft/Year)

Trane Air Conditioning Economics
By: Trane Customer Direct Service Network

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - WALL INSULATION

------------------------------------ E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ------------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	26085	23560	26085	25243	0	0	0	0	0	0	25243	26085	152,300
	PK	52.6	52.6	52.6	52.6	0.0	0.0	0.0	0.0	0.0	0.0	52.6	52.6	52.6
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	15930	14392	8951	2617	0	0	0	0	0	0	7172	13353	62,416
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	740	668	740	237	0	0	0	0	0	0	370	740	3,494
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1488	477	0	0	0	0	0	0	744	1488	7,029
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - WALL INSULATION

1 EQ5307			BOILER CONTROLS										
ELEC	248	224	248	80	0	0	0	0	0	0	124	248	1,172
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - WALL INSULATION

U T I L I T Y   P E A K   C H E C K S U M S

Utility ELECTRIC DEMAND

Peak Value 164.4 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.04
Sub Total			5.0	3.04
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	52.6	31.99
Sub Total			52.6	31.99
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	64.97
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	64.97
Grand Total			164.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
G207 - WALL INSULATION

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name	ATLANTA.
Gross Conditioned Floor Area (sqft)......	298,599
ACM Multiplier	1.025

-------------------------------------- E N E R G Y   U S E   S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,200.5	6,241,558.5	80.3	6,654,035.0	22.8
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	152,300.0	0.0	6.7	1,559,555.4	5.4
Circulation Pumps	3,494.4	0.0	0.2	35,782.3	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	155,794.3	0.0	6.8	1,595,337.8	5.5
Lighting	295,748.6	0.0	12.9	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	459,743.4	6,241,558.5	100.0	11,277,845.0	38.5

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - ROOF INSULATION

------------------------------------ M O N T H L Y   E N E R G Y   C O N S U M P T I O N ------------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	35,407	128	6,496	38
Feb	32,013	128	6,603	38
March	36,610	128	2,643	38
April	31,705	128	49	16
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	32,499	128	1,419	38
Dec	34,320	128	4,875	38
Total	353,584	128	22,084	38

Building Energy Consumption = 11,437 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 19,911 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - ROOF INSULATION

------------------------------------ E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ------------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	8211	7417	8211	7946	0	0	0	0	0	0	7946	8211	47,943
	PK	16.6	16.6	16.6	16.6	0.0	0.0	0.0	0.0	0.0	0.0	16.6	16.6	16.6
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	6496	6603	2643	49	0	0	0	0	0	0	1419	4875	22,084
	PK	37.5	37.5	37.5	15.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	740	668	509	46	0	0	0	0	0	0	283	710	2,956
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1023	93	0	0	0	0	0	0	570	1428	5,946
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - ROOF INSULATION

1 EQ5307			BOILER CONTROLS										
ELEC	248	224	170	15	0	0	0	0	0	0	95	238	991
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - ROOF INSULATION

-- U T I L I T Y P E A K C H E C K S U M S --

Utility ELECTRIC DEMAND

Peak Value 128.4 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.89
Sub Total			5.0	3.89
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	16.6	12.90
Sub Total			16.6	12.90
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	83.21
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	83.21
Grand Total			128.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
G207 - ROOF INSULATION

CALIFORNIA TITLE 24 COMPLIANCE REPORT

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

E N E R G Y   U S E   S U M M A R Y

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	6,937.0	2,208,441.5	65.4	2,395,710.2	8.2
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	47,942.7	0.0	4.8	490,934.5	1.7
Circulation Pumps	2,956.0	0.0	0.3	30,269.1	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	50,898.7	0.0	5.1	521,203.6	1.8
Lighting	295,748.6	0.0	29.6	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	353,584.3	2,208,441.5	100.0	5,945,386.5	20.2

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - INSULATED GLASS

M O N T H L Y   E N E R G Y   C O N S U M P T I O N

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	53,667	165	16,093	38
Feb	48,505	165	14,541	38
March	55,643	165	8,912	38
April	50,015	165	2,605	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	50,459	165	7,198	38
Dec	52,679	165	13,527	38
Total	461,999	165	62,875	38

Building Energy Consumption = 26,337 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 38,009 (Btu/Sq Ft/Year)

IPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- INSULATED GLASS

---------------------------------- E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ----------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[illegible]	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	26471	23909	26471	25617	0	0	0	0	0	0	25617	26471	154,556
	PK	53.4	53.4	53.4	53.4	0.0	0.0	0.0	0.0	0.0	0.0	53.4	53.4	53.4
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	16093	14541	8912	2605	0	0	0	0	0	0	7198	13527	62,875
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	740	668	740	237	0	0	0	0	0	0	370	740	3,494
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1488	477	0	0	0	0	0	0	744	1488	7,029
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
C[illegible] INSULATED GLASS

ELEC	248	224	248	80	0	0	0	0	0	0	124	248	1,172
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - INSULATED GLASS

------------------------------------- U T I L I T Y   P E A K   C H E C K S U M S -------------------------------------

Utility ELECTRIC DEMAND

Peak Value 165.2 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.02
Sub Total			5.0	3.02
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	53.4	32.31
Sub Total			53.4	32.31
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	64.67
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	64.67
Grand Total			165.2	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
[illegible] - INSULATED GLASS

CALIFORNIA TITLE 24 COMPLIANCE REPORT

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

E N E R G Y U S E S U M M A R Y

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,200.5	6,287,502.0	80.3	6,702,396.5	23.0
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	154,555.8	0.0	6.7	1,582,654.9	5.4
Circulation Pumps	3,494.4	0.0	0.2	35,782.3	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	158,050.1	0.0	6.9	1,618,437.1	5.6
Lighting	295,748.6	0.0	12.8	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	461,999.2	6,287,502.0	100.0	11,349,306.0	38.7

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - WEATHERSTRIP AND CAULK

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	53,750	165	16,131	38
Feb	48,581	165	14,575	38
March	55,726	165	8,969	38
April	50,095	165	2,614	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	50,540	165	7,246	38
Dec	52,762	165	13,569	38
Total	462,485	165	63,104	38

Building Energy Consumption = 26,420 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 38,106 (Btu/Sq Ft/Year)

PMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- WEATHERSTRIP AND CAULK

EQUIPMENT ENERGY CONSUMPTION

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
		Monthly Consumption												
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	26554	23984	26554	25697	0	0	0	0	0	0	25697	26554	155,041
	PK	53.5	53.5	53.5	53.5	0.0	0.0	0.0	0.0	0.0	0.0	53.5	53.5	53.5
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	16131	14575	8969	2614	0	0	0	0	0	0	7246	13569	63,104
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	740	668	740	237	0	0	0	0	0	0	370	740	3,494
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1488	477	0	0	0	0	0	0	744	1488	7,029
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- WEATHERSTRIP AND CAULK

ELEC	248	224	248	80	0	0	0	0	0	0	124	248	1,172
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - WEATHERSTRIP AND CAULK

U T I L I T Y   P E A K   C H E C K S U M S

Utility   ELECTRIC DEMAND

Peak Value   165.3   (kW)
Yearly Time of Peak   9 (hr)   1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.02
Sub Total			5.0	3.02
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	53.5	32.38
Sub Total			53.5	32.38
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	64.60
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	64.60
Grand Total			165.3	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
[illegible] - WEATHERSTRIP AND CAULK

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

------------------------------------- E N E R G Y   U S E   S U M M A R Y -------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,200.5	6,310,442.0	80.3	6,726,544.0	23.1
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	155,041.5	0.0	6.7	1,587,628.2	5.4
Circulation Pumps	3,494.4	0.0	0.2	35,782.3	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	158,535.8	0.0	6.9	1,623,410.6	5.6
Lighting	295,748.6	0.0	12.8	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	462,484.9	6,310,442.0	100.0	11,378,427.0	38.8

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - DESTRATIFICATION FANS

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	53,781	165	15,169	38
Feb	48,608	165	13,708	38
March	55,757	165	8,329	38
April	49,965	165	1,826	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	50,420	165	6,496	38
Dec	52,793	165	12,541	38
Total	462,354	165	58,068	38

Building Energy Consumption = 24,732 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 36,326 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- DESTRATIFICATION FANS

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	26585	24012	26585	25727	0	0	0	0	0	0	25727	26585	155,220
	PK	53.6	53.6	53.6	53.6	0.0	0.0	0.0	0.0	0.0	0.0	53.6	53.6	53.6
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	15169	13708	8329	1826	0	0	0	0	0	0	6496	12541	58,068
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	740	668	740	189	0	0	0	0	0	0	325	740	3,402
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1488	381	0	0	0	0	0	0	654	1488	6,843
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- DESTRATIFICATION FANS

ELEC	248	224	248	63	0	0	0	0	0	0	109	248	1,140
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - DESTRATIFICATION FANS

------- U T I L I T Y   P E A K   C H E C K S U M S -------

Utility ELECTRIC DEMAND

Peak Value 165.4 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.02
Sub Total			5.0	3.02
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	53.6	32.41
Sub Total			53.6	32.41
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	64.58
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	64.58
Grand Total			165.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
- DESTRATIFICATION FANS

--- CALIFORNIA TITLE 24 COMPLIANCE REPORT ---

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

------------------------------------- E N E R G Y U S E S U M M A R Y -------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	7,983.5	5,806,826.5	79.0	6,194,200.5	21.3
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	155,220.0	0.0	7.2	1,589,456.1	5.5
Circulation Pumps	3,401.9	0.0	0.2	34,835.5	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	158,621.9	0.0	7.3	1,624,291.6	5.6
Lighting	295,748.6	0.0	13.7	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	462,353.9	5,806,826.5	100.0	10,846,964.0	37.0

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - LOADING DOCK SEALS

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	52,297	162	15,406	38
Feb	47,268	162	13,930	38
March	54,233	162	8,365	38
April	48,644	157	2,571	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	49,053	162	6,761	38
Dec	51,309	162	12,780	38
Total	453,835	162	59,813	38

Building Energy Consumption = 25,219 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 36,649 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
G[illegible] LOADING DOCK SEALS

---------------------------------- E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ----------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	ISC LD													
	STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003 FC CENTRIF. FAN C.V.													
	ELEC	25101	22672	25101	24291	0	0	0	0	0	0	24291	25101	146,557
	PK	50.6	50.6	50.6	50.6	0.0	0.0	0.0	0.0	0.0	0.0	50.6	50.6	50.6
1	EQ4003 FC CENTRIF. FAN C.V.													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001 GAS FIRE TUBE HOT WATER													
	GAS	15406	13930	8365	2571	0	0	0	0	0	0	6761	12780	59,813
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020 HEAT WATER CIRC. PUMP C.V.													
	LEC	740	668	728	224	0	0	0	0	0	0	346	740	3,445
	K	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240 BOILER FORCED DRAFT FAN													
	ELEC	1488	1344	1464	450	0	0	0	0	0	0	696	1488	6,930
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
[illegible] - LOADING DOCK SEALS

ELEC	248	224	244	75	0	0	0	0	0	0	116	248	1,155
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - LOADING DOCK SEALS

---------- U T I L I T Y   P E A K   C H E C K S U M S ----------

Utility ELECTRIC DEMAND

Peak Value 162.4 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.07
Sub Total			5.0	3.07
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	50.6	31.16
Sub Total			50.6	31.16
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	65.77
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	65.77
Grand Total			162.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
- LOADING DOCK SEALS

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

-------------------------------------- E N E R G Y   U S E   S U M M A R Y --------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,085.0	5,981,312.5	79.8	6,378,909.0	21.9
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	146,556.5	0.0	6.6	1,500,742.1	5.2
Circulation Pumps	3,445.1	0.0	0.2	35,278.3	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	150,001.7	0.0	6.8	1,536,020.5	5.3
Lighting	295,748.6	0.0	13.4	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	453,835.2	5,981,312.5	100.0	10,943,402.0	37.3

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - REDUCED LIGHTS

M O N T H L Y   E N E R G Y   C O N S U M P T I O N

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	41,477	114	16,590	38
Feb	37,480	114	14,990	38
March	42,544	114	9,260	38
April	38,339	114	2,801	38
May	13,883	58	0	0
June	13,813	58	0	0
July	12,816	58	0	0
Aug	14,416	58	0	0
Sept	12,746	58	0	0
Oct	13,883	58	0	0
Nov	38,888	114	7,627	38
Dec	40,943	114	14,058	38
Total	321,228	114	65,325	38

Building Energy Consumption = 25,549 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 34,045 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- REDUCED LIGHTS

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	13349	12074	14416	12746	13883	13813	12816	14416	12746	13883	12746	12816	159,705
	PK	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	25652	23169	25652	24824	0	0	0	0	0	0	24824	25652	149,773
	PK	51.7	51.7	51.7	51.7	0.0	0.0	0.0	0.0	0.0	0.0	51.7	51.7	51.7
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	16590	14990	9260	2801	0	0	0	0	0	0	7627	14058	65,325
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	740	668	740	230	0	0	0	0	0	0	394	740	3,511
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1488	462	0	0	0	0	0	0	792	1488	7,062
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- REDUCED LIGHTS

ELEC	248	224	248	77	0	0	0	0	0	0	132	248	1,177
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - REDUCED LIGHTS

-- U T I L I T Y P E A K C H E C K S U M S --

Utility ELECTRIC DEMAND

Peak Value 114.4 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	4.36
Sub Total			5.0	4.36
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	51.7	45.21
Sub Total			51.7	45.21
Sub Total			0.0	0.00
Miscellaneous				
Lights			57.7	50.42
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			57.7	50.42
Grand Total			114.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
[illegible] - REDUCED LIGHTS

CALIFORNIA TITLE 24 COMPLIANCE REPORT

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

E N E R G Y U S E S U M M A R Y

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	8,239.0	6,532,541.5	86.0	6,960,727.0	23.9
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	149,773.1	0.0	6.7	1,533,680.0	5.3
Circulation Pumps	3,510.8	0.0	0.2	35,950.3	0.1
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	153,283.9	0.0	6.9	1,569,630.4	5.4
Lighting	159,704.8	0.0	7.1	1,635,380.9	5.5
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	321,227.7	6,532,541.5	100.0	10,165,738.0	34.8

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - CONTINOUS BOILER OPERATION

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	68,311	165	22,920	38
Feb	61,732	165	20,717	38
March	69,553	165	13,004	38
April	63,198	165	2,638	23
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	64,541	165	10,332	38
Dec	67,308	165	19,450	38
Total	545,674	165	89,060	38

Building Energy Consumption = 36,063 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 50,109 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- CONTINOUS BOILER OPERATION

---------------------------------- E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N ----------------------------------

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	39877	36018	39877	38591	0	0	0	0	0	0	38591	39877	232,830
	PK	53.6	53.6	53.6	53.6	0.0	0.0	0.0	0.0	0.0	0.0	53.6	53.6	53.6
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	22920	20717	13004	2638	0	0	0	0	0	0	10332	19450	89,060
	PK	37.5	37.5	37.5	23.3	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	1110	1002	890	300	0	0	0	0	0	0	701	1105	5,108
	PK	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	1.5
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	2232	2016	1791	603	0	0	0	0	0	0	1410	2223	10,275
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- CONTINOUS BOILER OPERATION

ELEC	372	336	299	100	0	0	0	0	0	0	235	371	1,712
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - CONTINOUS BOILER OPERATION

------------------------------------- U T I L I T Y   P E A K   C H E C K S U M S -------------------------------------

Utility ELECTRIC DEMAND

Peak Value 165.4 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	5.0	3.02
Sub Total			5.0	3.02
Air Moving Equipment				
1		SUMMATION OF FAN ELECTRICAL DEMAND	53.6	32.41
Sub Total			53.6	32.41
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	64.58
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	64.58
Grand Total			165.4	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
[illegible] - CONTINOUS BOILER OPERATION

-- CALIFORNIA TITLE 24 COMPLIANCE REPORT --

Weather Name .... ATLANTA.
Gross Conditioned Floor Area (sqft)...... 298,599
ACM Multiplier 1.025

------------------------------------ E N E R G Y   U S E   S U M M A R Y ------------------------------------

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	11,987.5	8,905,955.0	83.1	9,497,442.0	32.6
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	232,829.7	0.0	7.4	2,384,181.7	8.2
Circulation Pumps	5,108.1	0.0	0.2	52,306.7	0.2
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	237,937.8	0.0	7.5	2,436,488.3	8.4
Lighting	295,748.6	0.0	9.4	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	545,673.8	8,905,955.0	100.0	14,962,402.0	51.1

MONTHLY ENERGY CONSUMPTION - ALTERNATIVE 1
G207 - RADIANT HEATERS

---------------------------------- M O N T H L Y   E N E R G Y   C O N S U M P T I O N ----------------------------------

Month	ELEC On Peak (kWh)	DEMAND On Peak (kW)	GAS On Peak (Therm)	GAS DMND On Peak (Thrm/hr)
Jan	26,456	110	15,662	38
Feb	23,928	110	14,157	38
March	28,282	110	8,427	38
April	24,059	110	2,155	38
May	25,708	107	0	0
June	25,580	107	0	0
July	23,733	107	0	0
Aug	26,696	107	0	0
Sept	23,604	107	0	0
Oct	25,708	107	0	0
Nov	24,318	110	6,641	38
Dec	25,469	110	13,066	38
Total	303,543	110	60,108	38

Building Energy Consumption = 23,599 (Btu/Sq Ft/Year)   Floor Area = 298,599 (Sq Ft)
Source Energy Consumption = 31,599 (Btu/Sq Ft/Year)

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1
- RADIANT HEATERS

E Q U I P M E N T   E N E R G Y   C O N S U M P T I O N

Ref Num	Equip Code	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
0	LIGHTS													
	ELEC	24720	22360	26696	23604	25708	25580	23733	26696	23604	25708	23604	23733	295,749
	PK	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8	106.8
1	MISC LD													
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	MISC LD													
	GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	MISC LD													
	OIL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MISC LD													
	P STEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	MISC LD													
	P HOTH2O	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	MISC LD													
	P CHILL	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ4003		FC CENTRIF. FAN C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ2001		GAS FIRE TUBE HOT WATER											
	GAS	15662	14157	8427	2155	0	0	0	0	0	0	6641	13066	60,108
	PK	37.5	37.5	37.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	37.5	37.5	37.5
1	EQ5020		HEAT WATER CIRC. PUMP C.V.											
	ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0
	PK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	EQ5240		BOILER FORCED DRAFT FAN											
	ELEC	1488	1344	1359	390	0	0	0	0	0	0	612	1488	6,681
	PK	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

1 EQ5307 BOILER CONTROLS

EQUIPMENT ENERGY CONSUMPTION - ALTERNATIVE 1

- RADIANT HEATERS

ELEC	248	224	226	65	0	0	0	0	0	0	102	248	1,113
PK	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5

UTILITY PEAK CHECKSUMS - ALTERNATIVE 1
G207 - RADIANT HEATERS

---------- U T I L I T Y   P E A K   C H E C K S U M S ----------

Utility ELECTRIC DEMAND

Peak Value 110.3 (kW)
Yearly Time of Peak 9 (hr) 1 (mo)

Hour 9 Month 1

Sub Total			0.0	0.00
Heating Equipment				
1	EQ2001	GAS FIRE TUBE HOT WATER	3.5	3.17
Sub Total			3.5	3.17
Sub Total			0.0	0.00
Sub Total			0.0	0.00
Miscellaneous				
Lights			106.8	96.83
Base Utilities			0.0	0.00
Misc Equipment			0.0	0.00
Sub Total			106.8	96.83
Grand Total			110.3	100.00

CALIFORNIA TITLE 24 COMPLIANCE - ALTERNATIVE 1
7 - RADIANT HEATERS

CALIFORNIA TITLE 24 COMPLIANCE REPORT

Weather Name	ATLANTA.
Gross Conditioned Floor Area (sqft)......	298,599
ACM Multiplier	1.025

E N E R G Y U S E S U M M A R Y

	ELEC (kWh/yr)	GAS (kBtu/yr)	PERCENT OF TOTAL ENERGY (%)	TOTAL SOURCE ENERGY (kBtu/yr)	ADJUSTED UNIT SOURCE ENERGY (kBtu/yr-sf)
Primary Heating	7,794.5	6,010,785.0	85.7	6,406,958.0	22.0
Primary Cooling					
Compressor	0.0	0.0	0.0	0.0	0.0
Tower/Cond Fans	0.0	0.0	0.0	0.0	0.0
Condenser Pump	0.0	0.0	0.0	0.0	0.0
Other Accessories	0.0	0.0	0.0	0.0	0.0
Auxiliary					
Supply Fans	0.0	0.0	0.0	0.0	0.0
Circulation Pumps	0.0	0.0	0.0	0.0	0.0
Base Utilities	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0
Lighting	295,748.6	0.0	14.3	3,028,472.3	10.1
Receptacle	0.0	0.0	0.0	0.0	0.0
Domestic Hot Water	0.0	0.0	0.0	0.0	0.0
Cogeneration	0.0	0.0	0.0	0.0	0.0
Totals	303,543.1	6,010,785.0	100.0	9,435,430.0	32.1

APPENDIX F

FIELD SURVEY DATA

OMEGA PROCESS CONTROLS, INC.
A Division of OMEGA ENGINEERING, Inc.

One Omega Circle
Pureland Industrial Park
P.O. Box 336
Bridgeport, NJ 08014
(609) 467-4200

CERTIFICATE OF CALIBRATION

for

EMC ENGINEERS
1950 SPECTRUM CIRCLE
SUITE 312
MARIETTA, GA 30067

Cust PO# 62584 Model# HH-23
Omega WO# 202992981 Serial# T-54474

CAL-3

OMEGA Process Controls Inc certifies that the above instrumentation has been calibrated to meet or exceed the published specifications. This calibration was performed using instrumentation and standards that are traceable to the United States National Institute of Standards and Technology, and is in compliance with MIL-STD-45662A.

Readings Observed in: Fahrenheit

STANDARD	AS RECEIVED	FINAL CAL
32	32.5	32.0
900	900.8	900.4
1800	1800.4	1800.0

TEST EQUIPMENT	NIST(NBS)
Fluke 8860A Digit Multimeter, S/N 3335023	245516
Analogic AN-3100 DC Standard, S/N 7904379	245516
Gen Res RDS63-A Dec Resistor, S/N 591	241457
Omega TRC-III Ice Point Cell, S/N 003	241457

TEST CONDITIONS
Temp: 23C Rel Hum: 26%

CERTIFIED BY
John L. Howard

Instrumentation Supervisor

BUILDING 101

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

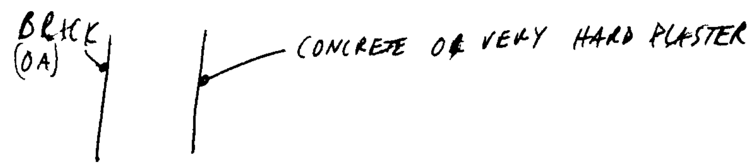
BLDG.# 101
ECO 1

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/2/92

WALL & ROOF INSULATION

AREAS IN SQ. FEET	NORTH	SOUTH	EAST	WEST
WALLS				
WINDOWS				
OVERHEAD DOORS				
PERSONNEL DOORS				

SKETCH WALL CROSS-SECTION

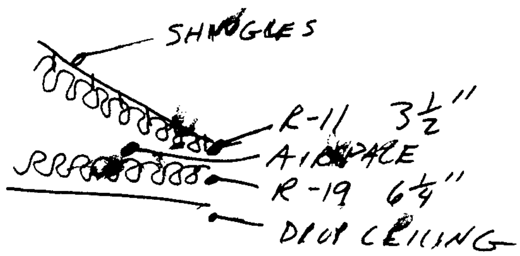


COMPONENTS

1. OUTSIDE AIR FILM
2.
3.
4.
5.
6.
7. INSIDE AIR FILM

SKETCH ROOF CROSS-SECTION

4th floor



COMPONENTS

1. OUTSIDE AIR FILM
2.
3.
4.
5.
6.
7. INSIDE AIR FILM

PERSONNEL DOOR TYPE ____________

OVERHEAD DOOR TYPE ____________

BASEMENT [ ]
SLAB [ ]
CRAWL SPACE [ ]

COMMENTS: 2nd & 3rd floor have R-19 6¼" INSULATION ABOVE DROP CEILING.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 12/92

BLDG.# G-101
ECO 1

PIPE INSULATION

LOCATION	PIPE DIAMETER	PIPE LENGTH	FLUID TYPE	FLUID TEMP.	AIR TEMP.	INSULATION TYPE	INSULATION THICKNESS	INSULATION CONDITION
WEST BASEMENT MECH. ROOM	1"		STEAM			1" FIBERGLASS	1"	EXCEL
"	4"		DTW S/R			2" FIBERGLASS	2"	FAIR
"	2"		HW S/R			FIBERGLASS	1"	EXCEL
"	1"		CONDENSATE SUPPLY & RETURN			FIBERGLASS	1"	EXCEL
"	3"		CHW S/R			"	2"	EXCEL

COMMENTS: BOILER STACKS WELL INSULATED. ALL PIPE INSULATION AVERAGES VERY GOOD.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

BLDG.# 101
ECO 2

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/2/92

WINDOWS SURVEY

WINDOW NO.	SINGLE/DOUBLE PANE	TYPE-SLIDING FIXED, CASEMENT	FRAME MAT'L	ORIENTATION	GLASS SHADING	WINDOW COVER	DIMENSIONS (INCH)
	SINGLE	CASEMENT	METAL	S	NONE	BLNDS & SHADE	~~48~~ 54 X 84

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/2/92

BLDG.# 101
ECO 3

WEATHERSTRIPING AND CAULKING

	DOOR\ WINDOW	CONDITION OF W.S./CAULK	INFILTRATION	ORIENTATION	DIMENSIONS (INCH)	#
①	D	NONE	HIGH	SOUTH	39X84	1
	W	SEALED W/ PAINT	LOW	SOUTH	48 X 84	
②	D	NONE	VERY HIGH	SW	60X84	1
③	D	POOR	HIGH	MAIN EAST ENTRANCE	60X84	3
④	W	~~NONE~~ SEALED W/ PAINT	MED	1st EAST INFO. ADMIN. DIV	48X84	
	D	NONE	MED	1st NW	60X84	1

COMMENTS: ① DOOR HAS 1/2" AIR GAP ON BOTTOM
WINDOW IN DEPUTY COMMANDER (C-~~142~~) HAS FAULTY LOCK ON EAST WALL CAUSING ~~HIGH~~ INFILTRATION. ② DOUBLE DOOR DOES NOT SHUT COMPLETELY LEAVING 1/4"–1/2" AIR GAP IN MIDDLE AND TOP.
③ FRONT DOORS HAVE VESTIBULE BUT NEITHER OUTSIDE NOR INTERNAL DOORS ARE SEALED CAUSING HIGH INFILTRATION. ALL 3 INTERNAL DOORS HAVE 1/2" AIR GAP ON BOTTOM. ④ TWO WINDOWS IN THIS ROOM ARE SPRUNG OPEN AND HAVE BEEN TAPED SHUT. THIS IS THE CASE IN MANY OTHER ROOMS HOWEVER, NO ONE HAS TAPED THEM UP.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/2/97

BLDG.# 101
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
WEST BASEMENT MECH. ROOM	150°F
1st floor WEST MEN'S ROOM	141°F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPhereson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-7-92

BLDG.# 101

MOTORS

MOTOR #	1	HP	2	PH	3	RPM	1735
MODEL #	PUL 145 PT DR7026UC	VOLTS	208/460	AMPS	6/3		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	Marathon Electric	REQUIRED HR.		TO			
FRAME	145P	EFF.					
DESCRIPTION	AHU 1	COMMENTS	4th FLOOR				

MOTOR #	2	HP	7 1/2	PH	3	RPM	1745
MODEL #	680895 9G04	VOLTS	200	AMPS	24.4		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	WESTINGHOUSE	REQUIRED HR.		TO			
FRAME	213T	EFF.					
DESCRIPTION	AHU 2	COMMENTS					

MOTOR #	3	HP	5	PH	3	RPM	1730
MODEL #	3N659	VOLTS	208/460	AMPS	15/7.3		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	GAYTON TRIVOLT	REQUIRED HR.		TO			
FRAME	K184T	EFF.	62.5%				
DESCRIPTION	AHU - 3	COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY:
CHECKED BY:
DATE:

BLDG.# 101
ECO 5
4th FLOOR

MOTORS

MOTOR #		HP	2	PH	3
RPM	1735				
MODEL #	PVL145TTDR7026DC	VOLTS	208	AMPS	6
SERIAL #		PRESENT HR.		TO	
MFG	MARATHON	REQUIRED HR.		TO	
FRAME	145T	EFF.	82.5		
DESCRIPTION	AHU 1 (4th FLOOR)	COMMENTS			

MOTOR #		HP		PH	
RPM					
MODEL #		VOLTS		AMPS	
SERIAL #		PRESENT HR.		TO	
MFG		REQUIRED HR.		TO	
FRAME		EFF.			
DESCRIPTION		COMMENTS			

MOTOR #		HP	5	PH	3
RPM	1730				
MODEL #	3N659	VOLTS	200	AMPS	15
SERIAL #		PRESENT HR.		TO	
MFG	DAYTON	REQUIRED HR.		TO	
FRAME	K184T	EFF.			
DESCRIPTION	AHU-3 (4th FLOOR)	COMMENTS			

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-7-92

BLDG.# 101
ECO 5

MOTORS

MOTOR #	~~8-331260-03~~ 4	HP	1.0	PH	3	RPM	1745
MODEL #	8-331260-03	VOLTS	200 ~~208~~	AMPS	3.8		
SERIAL #		PRESENT HR.		TO			
MFG	CENTURY	REQUIRED HR.		TO			
FRAME	L143 T	EFF.					
DESCRIPTION	AHU-4	COMMENTS	SUMMER TIME				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY:
CHECKED BY:
DATE: 1/2/92

BLDG.# 101
ECO 5

MOTORS

MOTOR #	1	HP	1/4	PH	1
RPM	1725				
MODEL #		VOLTS	115	AMPS	5
SERIAL #	317P 216	PRESENT HR.	0	TO	2400
MFG	WESTINGHOUSE FEDERAL PUMP CORP.	REQUIRED HR.		TO	
FRAME	SB56C	EFF.			
DESCRIPTION	DHW CIR.	COMMENTS	TEMP CONTROL SET @ 160°F		

MOTOR #	2	HP	10	PH	3
RPM	1745				
MODEL #	JVK 215TTDR 7343D-FIW	VOLTS	208	AMPS	29
SERIAL #		PRESENT HR.	0	TO	2400
MFG	MARATHON	REQUIRED HR.		TO	
FRAME	215 JM	EFF.			
DESCRIPTION	CWP	COMMENTS			

MOTOR #	3	HP	10	PH	3
RPM	1745				
MODEL #	JVK215TTDR7343DFIW	VOLTS	208	AMPS	29
SERIAL #		PRESENT HR.	0	TO	2400
MFG	MARATHON	REQUIRED HR.		TO	
FRAME		EFF.			
DESCRIPTION	CWP	COMMENTS			

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. ___ OF ___
CALCULATED BY:
CHECKED BY:
DATE:

BLDG.# 101
ECO 5

MOTORS

MOTOR #	4	HP	30	PH	3	RPM	1765
MODEL #	FM286TSTDR7361CBWF2	VOLTS	200	AMPS	85		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	MARATHON	REQUIRED HR.		TO			
FRAME	286TS	EFF.					
DESCRIPTION	HWP #1	COMMENTS	RUNNING.				

MOTOR #	5	HP	30	PH	3	RPM	17
MODEL #	FM286TST DR7361CBWF2	VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG	MARATHON	REQUIRED HR.		TO			
FRAME	286TS	EFF.					
DESCRIPTION	HWP #2	COMMENTS	NOT RUNNING.				

MOTOR #	6	HP	1/3	PH	1	RPM	1725
MODEL #	555JXDYD-2680	VOLTS	115	AMPS	6.2		
SERIAL #		PRESENT HR.		TO			
MFG	EMERSON	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HWP # 3	COMMENTS	NEW ADDITION NO MOTOR TO PUMP COUPLING				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/2/92

BLDG.# 101
ECO 5

10+ HP MOTORS
MEASURED

MOTOR# CHW #1 (NORTH)		PHASE A	PHASE B	PHASE C
LOCATION	KVAR	3.8		
MFG MARATHON	KVA	9.7		
MODEL # JUK215TTDR7343D-F1W	KW	4.3		
SERIAL #	PF	75.1		
FRAME 215JM	HP			
HP 10	VOLTS	205	203	
RPM 1745	AMPS	16	15.7	
PRESENT ____ TO ____	PH			
REQ HR. ____ TO ____				

PH 3 VLTS. 208
Amps 29

MOTOR # CHWP#2 (SOUTH)		PHASE A	PHASE B	PHASE C
LOCATION	KVAR	4.1		
MFG MARATHON	KVA	5.9		
MODEL # JUK215TTDR7343DF1W	KW	4.3		
SERIAL #	PF	72.3		
FRAME	HP	204	204	
HP 10	VOLTS	16.7	16.8	
RPM 1745	AMPS			
PRESENT ____ TO ____	PH			
REQ HR. ____ TO ____				

VLTS 208
Amps 29
PH 3

COMMENTS

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY:
CHECKED BY:
DATE:

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
65B	6	4	34	F	ON	N	N	1	Y
65C	8	4	34	F	OFF	Y	N	0	N
65D	12	4	34	F	ON	Y	N	1	N
76	1	4	34	F	OFF	Y	N	1	N
86	3	2	34	F	ON	Y	Y	1	Y
88A	1	4	34	F	ON	Y	Y	1	Y
88	1	2	34	F	ON	Y	N	1	Y
77	8	4	34	F	ON	Y	Y	1	Y
85	1	2	34	F	OFF	Y	Y	1	N
88	1 1	2 2	8' 4'	F F	ON ON	Y	Y	1	Y
87	1 2	2 2	UTUBE 34	F F	ON ON	Y	Y	1	Y
78	4	4	34	F	OFF	Y	Y	2	N
79	2	4	34	F	ON	N	Y	0	Y
80	5	4	34	F	ON	Y	Y	1	N
81	1	4	34	F	OFF	Y	Y	1	N
82	1	4	34	F	OFF	Y	Y	1	N
84	1	4	34	F	OFF	Y	Y	1	N
83	8	4	34	F	OFF	Y	Y	1	N

DELAMP

OF EXIT SIGNS –

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-7-92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
218	17	4	34	F	ON	Y	N	2	N
220	12	2 8'		F	ON	Y	N	2	Y
222	1	4	34	F	ON	Y	N	1	Y
223	1	2	34	F	ON	Y	N	1	Y
~~223~~ 225	18	4	34	F	~~ON~~ OFF	Y	N	~~3~~ 4	N
227	10	4	34	F	ON	Y	N	1	N
228	16	4	34	F	ON	Y	N	3	N
229	3	4	34	F	ON	Y	N	1	Y
230	2	2	34	F	OFF	Y	N	1	N
232	1	4	34	F	OFF	Y	N	1	N
236	4	4	34	F	ON	Y	N	1	N

OF EXIT SIGNS – NA

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-7-92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
336	3	4	34	F	ON	Y	N	1	Y
339	5	4	34	F	ON	Y	N	1	N
341	2	4	34	F	ON	Y	N	w/ 340 1/2	Y
343	2	4	34	F	ON	Y	N	1	N
342	4	4	34	F	ON	Y	Y	1	N
345	3	4	34	F	ON	N	Y	0	Y
201	64	4	34	F	ON	Y	N	12	N
204	3	4	34	F	ON	Y	N	1	N
207	3	4	34	F	ON	Y	N	1	N
209	3	4	34	F	ON	Y	N	1	N
210	2	2	34	F	ON	Y	N	1	Y
211	2	4	34	F	ON	Y	N	1	Y
212	1	4	34	F	ON	N	N	0	Y
213	11	4	34	F	ON	Y	N	3	Y
214	14	4	34	F	ON	Y	N	3	N
215	2	4	34	F	ON	N	N	0	Y
216	4	4	34	F	OFF	Y	Y	1	N

OF EXIT SIGNS – NI

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-7-92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
	4	2 (U)	40	F	ON	Y	N	WORK W/ OTHERS	N
433	2	1	60	I	OFF	Y	N	1	N
301	1	4	34	F	OFF	Y	N	1	N
303	1	4	34	F	ON	Y	Y	1	Y
305	2	4	34	F	OFF	Y	Y	1	N
309	16	4	34	F	ON	Y	N	2	N
311	1	4	34	F	ON	Y	N	1	Y
312	3	4	34	F	ON	Y	N	1	N
316	6	4	34	F	ON	Y	Y	1	Y
317	5	4	34	F	ON	Y	N	1	N
320	1	2	34	F	ON	Y	Y	1	Y
322	1	4	34	F	OFF	Y	N	1	N
324	1	2 8'		F	OFF	N	N	—	N
328	1	2 8'		F	OFF	N	N	PULLED OUT	N
330	68	4	34	F	ON	Y	N	17	N
332	2	4	34	F	ON	Y	Y	1	Y
334	1	2	34	F	OFF	Y	N	1	N

OF EXIT SIGNS – ~~||||~~ ||||

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-7-92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
401	25	4	34	F	ON	Y	N	6	N
	1	2 (U)	40	F	ON	Y	N	1	N
403	2	4	34	F	ON	Y	N	1	Y
405	3	4	34	F	OFF	Y	Y	1	N
407	1	1	75	I	OFF	Y	N	1	N
409	7	4	34	F	ON	Y	N	1	N
411	5	2 (U)	40	F	ON	Y	N	2	N
413	2	4	34	F	ON	Y	N	1	Y
414	4	4	34	F	OFF	Y	Y	1	N
415									
416	3	4	34	F	OFF	Y	Y	1	N
417									
419	2	1	60	I	OFF	Y	N	1	N
422	3	4	34	F	ON	Y	N	1	Y
423	2	2 8'		F	OFF	COULD NOT FIND	Y		N
425	1	2 8'		F	OFF	Y	N	1	N
427	2	4	34	F	ON	Y	Y	1	Y
429	47	4	34	F	ON	Y	N	12	N

OF EXIT SIGNS – 111

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
252	6	4	34	F	ON	Y	N	3	Y
253	1	2-U		F	OFF	Y	N	1	N
254	1	1	60	I	OFF	Y	N	1	N

OF EXIT SIGNS –

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
233	2	4	34	F	OFF	Y	Y	1	NO
234	9	4	34	F	ON	Y	N	2	N
235	3	4	34	F	ON	Y	N	1	N
237	16	4		F	ON	Y	N	2	N
238	4	4	34	F	ON	Y	N	1	Y
239	5	4		F	ON	Y	N	2	Y
240	1	4		F	ON	Y	N	1	Y
241	1	2U		F	OFF	Y	N	1	N
242	1	4		F	ON	Y	N	1	Y
243	2	4		F	ON	Y	N	1	Y
244	1	2U		F	ON	Y	N	1	Y
245	1	1	60	I	OFF	Y	N	1	N
246	3	4		F	ON	Y	N	1	N
247	3	4		F	ON	Y	N	1	N
248	4	4		F	ON	Y	N	1	Y
249	3	4		F	ON	Y	N	1	N
250	8	4		F	ON	Y	N	2	N
251	5	4	34	F	ON	Y	N	1	N

\# OF EXIT SIGNS – ________

COMMENTS: ________

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
333	9	4	34	F	ON	Y	N	3	N
335	2	2	34	F	ON	Y	N	1	Y
337	5	4	34	F	ON	Y	N	1	N
338	2	4		F	ON	Y	Y	1	N
340	3	4		F	ON	Y	N	1/2 w/ 341	Y
344	2	4		F	ON	N	N	0	Y
200	5	4		F	ON	Y	N	1	N
202	3	4		F	ON	Y	Y	1	Y
203	3	4		F	ON	Y	Y	1	Y
205	3	4		F	ON	Y	Y	1	Y
delamp 206	5	4		F	ON	Y	Y	1	N
	~~15~~	~~4~~		~~F~~	~~ON~~	~~Y~~	~~N~~	~~4~~	~~N~~
217	2	4		F	OFF	Y	Y	1	N
219	63	4	34	F	ON	Y	N	8	N
221	1	1	60	I	OFF	Y	N	1	N
224	4	4	34	F	ON	Y	N	1	N
226	8	4	34	F	ON	Y	N	2	N
230	7	4	34	F	ON	Y	N	2	N

OF EXIT SIGNS – 11

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
300	5	4	34	F	ON	Y	N	2	N
302	6	4		F	ON	Y	N	1	N
304	2	2	34	F	ON	Y	Y	1	Y
306	9	4	34	F	ON	Y	N	2	N
307	2	4	34	F	ON	Y	Y	1	Y
308	98	4	34	F	ON	Y	N	8	N
310	2	4		F	ON	Y	Y	1	N
314	10	4		F	ON	Y	N	2	N
313	6	4	34	F	ON	Y	Y	1	Y
318	2	4	34	F	ON	Y	Y	1	Y
319	OCCUPIED								
321	1	4		F	ON	Y	N	1	Y
323	85	4	34	F	ON	Y	N	10	N
325	3	4		F	OFF	Y	Y	1	N
326	2	4		F	ON	Y	Y	1	Y
327	2	4		F	ON	Y	Y	1	Y
329	2	4		F	ON	Y	Y	1	N
331	4	4		F	ON	Y	Y	1	N

OF EXIT SIGNS – ______

COMMENTS: ______

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
403	6	2	8'	F	ON	Y	N	2	N
400	2	4	34	F	ON	Y	N	1	N
402	10	4		F	ON	Y	N	2	N
406	2	4		F	OFF	Y	Y	1	N
404	2	4		F	ON	Y	Y	1	N
408	2/1	2/2	8'/34	F	OFF	Y	N	1	N
410	8	4		F	ON	Y	N	1	N
412	48	4		F	ON	Y	N	5	N
418	LOCKED								
420	4	4		F	ON	Y	Y	1	Y
421	3	2	34	F	ON	Y	N	1	Y
424	1	1	200	I	OFF	N SCREW IN	Y	0	N
426	5	4		F	ON	Y	N	1	N
428	2/3	4/2-4	34	F	OFF	Y	Y	1	N
430	4	4		F	ON	Y	Y	1	N
431	3	2	34	F	ON	Y	N	1	N
432	3	2	34	F	ON	Y	N	1	N

OF EXIT SIGNS – ||||

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: JW
CHECKED BY: ______
DATE: 1/3/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
39	1	1	150	I	ON	Y	Y	1	Y
25	1	4	34	F	ON	Y	Y	1	Y
24	18	4	34	F	ON	Y	NO	7	NO
26	6	4	34	F	ON	Y	Y	1	NO
23	7/1	4/4	34/20	F	ON	Y	Y	1	NO
22	9	4	34	F	ON	Y	NO	1	NO
46	4	4	34	F	ON	Y	Y	1	NO
46A	1	1	150	I	ON	Y	Y	1	Y

al

OF EXIT SIGNS – ______

COMMENTS: ______ JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
75	8	4	34	F	ON	Y	NO	1	NO
74	8	4	34	F	ON	Y	NO	1	NO
74-A	1	4	34	F	OFF	Y	YES	1	NO
73-A	1	4	34	F	OFF	Y	YES	1	NO
73	10	4	34	F	ON	Y	NO	1	NO
72	4	4	34	F	OFF	Y	NO	1	NO
71	12	4	34	F	ON	Y	NO	1	NO
HALL-1	8	4	34	F	ON	Y	NO	2	NO
67	2	2	8'	F	OFF	Y	NO	1	NO
70	2	4	34	F	ON	Y	NO	1	NO
69	3	4	34	F	ON	Y	YES	1	NO
61	6	4	34	F	ON	Y	NO	2	NO
68	1	2	8'	F	ON	Y	NO	1	NO
59	1	1	150	I	OFF	Y	NO	1	NO
59	2	2	34	F	OFF	Y	NO	1	NO
60	2	4	34	F	OFF	Y	NO	1	NO
21	20	4	34	F	ON	Y	NO	2	NO
58	6	4	34	F	ON	Y	NO	1	NO

delamp

OF EXIT SIGNS – ______

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
57A	1	4	20	F	OFF	Y	NO	1	NO
57	1	2	34	F	OFF	Y	NO	1	NO
56	2	4	34	F	OFF	Y	NO	1	NO
54	3	4	34	F	ON	Y	NO	1	NO
55	3	4	34	F	OFF	Y	YES	1	NO
53	4	4	20	F	ON	Y	YES	1	NO
53A	SAME	↑↑							
53B	3	4	34	F	ON	Y	YES	1	~~NO~~ YES
51	2	4	34	F	ON	Y	~~YES~~ NO	1	~~NO~~ YES
52	1	4	34	F	ON	NO	YES	0	NO
dl 50	3	4	34	F	ON	NO	YES	0	YES
dl 49	3	4	34	F	ON	YES	NO	1	YES
dl 48	12	4	34	F	ON	YES	NO	2	YES
47	6	4	34	F	OFF	Y	Y	1	NO
45	2	2	8' 34	F	OFF	Y	YES	1	NO
42	4	4	34	F	ON	Y	YES	1	NO
44 43	1	1	150	I	ON	Y	NO	1	YES
34	4	4	34	F	ON	Y	YES	1	NO

\# OF EXIT SIGNS – ______

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	
CHECKED BY:	
DATE:	

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
71	12	4	34	F	O	Y	N	1	N
68	1	2	8' TUBE	F	O	Y	Y	1	Y
61	8	2	34	F	O	Y	N	2	N
60	2	4	34	F	OFF	Y	Y	1	N
59/[illegible]	1	1	150	INC	O	Y	Y	1	N
59/[illegible]	2	2	~~34~~	F	O	Y	Y	1	N
21	20	1	34	F	O	Y	N	1	N
21	10	1	34	F	OFF	Y	N	1	N
40	2	1	34	F	O	Y	Y	1	Y
41	1	4	34	F	O	Y	Y	1	Y
27	12	1	34	F	O	Y	N	1	Y
27A	2	2	34	F	O	Y	N	1	N
28	3	2	34	F	O	Y	N	1	Y

OF EXIT SIGNS –

COMMENTS:

JW

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY:
CHECKED BY:
DATE:

BLDG.# 101
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
8	4'×4' 8	2	U TUBE	FL	OFF	Y	N	1	N
2A	4	4	34	FL	ON	N	Y	0	Y
2C	4	4	34	FL	ON	N	Y	0	Y
2B	3	4	34	FL	ON	N	Y	0	Y
5A	2	4	34	FL	ON	Y	Y	1	N ~~Y~~
5B	2	4	34	FL	ON		Y		N ~~Y~~
6	4	4	34	FL	ON	Y	Y	1	Y
3A	5	4	34	FL	ON	Y	Y	1	N
3B	1	4	34	FL	ON	Y	Y	1	Y
19	3	2	U TUBE	FL	ON	Y	Y	1	Y
13	52	1	HAL.	HALAGEN 2V-75W	OFF	SPECIAL LIGHT CONTROLS			
4	3	2	8'	FL	OFF	Y	N	1	N
20	1	2	34	FL	ON	Y	N	1	Y
16	1	2	34	FL	ON	Y	Y	1	Y
15	2	4	34	FL	ON	Y	Y	1	Y
14A	1	4	34	FL	OFF	Y	N	1	N
14B	2	4	34	FL	OFF	Y	N	1	N
65A	8	4	34	FL	OFF	N ~~Y~~	~~N~~ Y	0	~~N~~ Y

De lamp

OF EXIT SIGNS – 11

COMMENTS:

JW

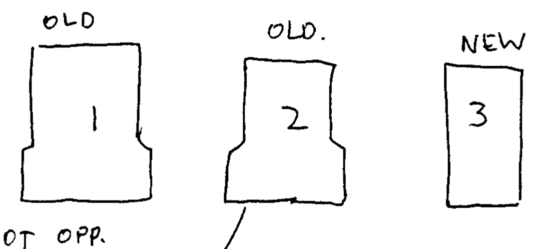
E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

FL. Gillem
BLDG. 101

JOB ____
SHEET NO. ____ OF ____
CALCULATED BY ____ DATE ____
CHECKED BY ____ DATE ____
SCALE ____

MECH. ROOM

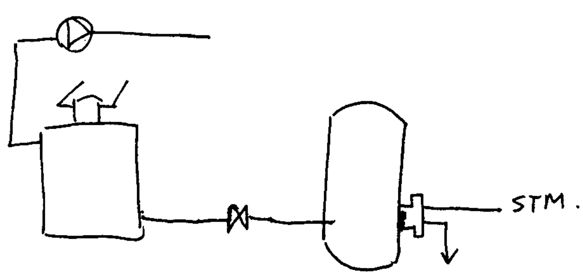


BURNER
DUNHAM-BUSH INC
MOD. C-240-GO-K
ASSEM # 149132-615
N.GAS
5250 MBTUH
SER 7806-C78862

1 PACIFIC STEEL BOILER CORP.

2 RAY HUSKY PACKAGED BOILER
NUMBER 125EP B-5666 ; 1963
HEATING SURFACE 625 Ft^2

3 BRUNHAM CORP.
BOILER # FF-505
SERIAL # 7581959
OUTPUT 786 MBH
STEAM SQ.FT 2457
STEAM MBH 589.6
STEAM 15 PSI



DHW UNIT

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/2/92

CHECKED BY DATE

SCALE

WINDOW TROUBLE SPOTS
BLDG 101

- 2nd FLOOR SOUTH – COMMANDING GENERAL'S OFFICE
  WINDOW ON SOUTH WALL IS CRACKED BUT LOW INFILTRATION
  2 WINDOWS ON EAST WALL ~~HAS~~ HAVE HIGH INFILTRATION, ONE WITH BROKEN FRAME, ~~OTHER~~ OTHER FRAME OK BUT NEEDS SEAL.
- 2nd Floor ~~S~~ SOUTHWEST END OF HALLWAY WINDOW IS JAMMED OPEN DUE TO BROKEN LATCH CAUSING 2" AIR GAP.

BUILDING IS VERY DRAFTY

TEMPERATURES

1st FLOOR, MAIN ENTRANCE ⇒ ~~68~~ 70°F
1st FLOOR, NORTH ⇒ 69°F
1st SOUTH ⇒ 72.5°F
OA TEMP – RAINY AT 1:00pm ⇒ ~~55~~ 56°F at 62% RH

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 101

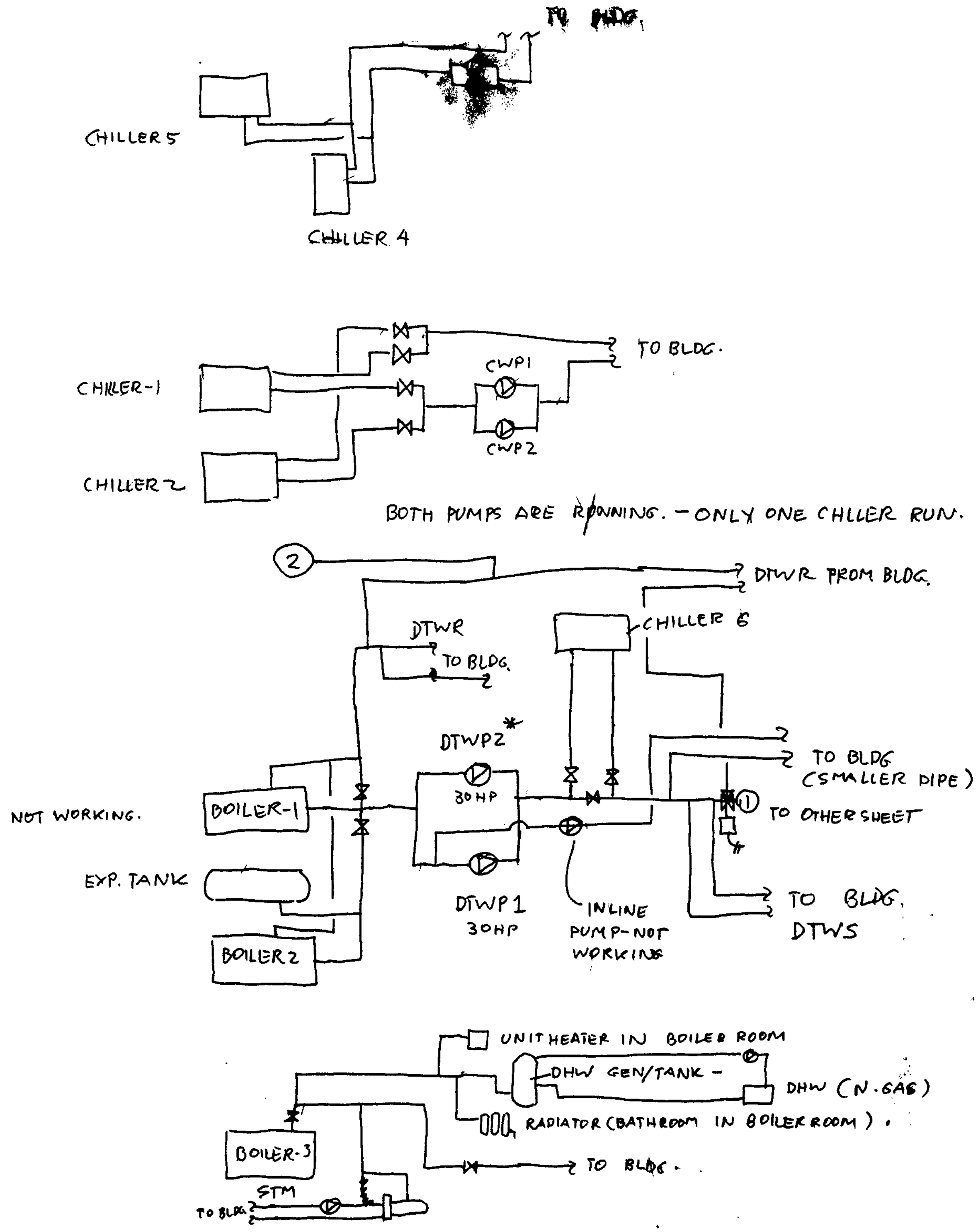
JOB

SHEET NO. OF

CALCULATED BY KC DATE 1/3/92

CHECKED BY DATE

SCALE



* ACCORDING TO OPERATOR PUMP VAIBERATES WHEN RUN - MANUALLY SWITCH BETWEEN THE 2 PUMPS.

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

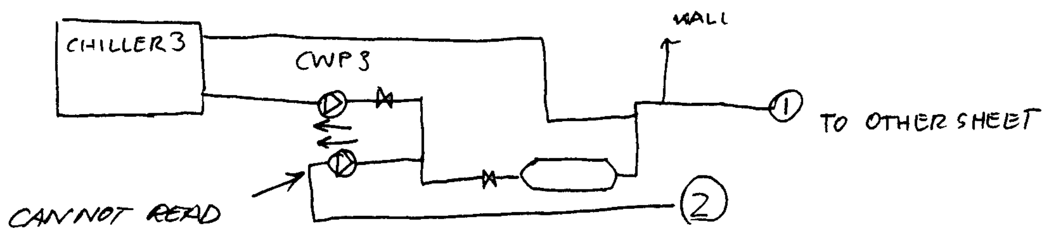
SHEET NO. OF

CALCULATED BY KC DATE 1/3/92

CHECKED BY DATE

SCALE

BLDG 101



CWP-3 GE 1750 RPM
208V 3 HP 3Ø ~~10.6A~~ 9
CANNOT READ MOD # "OLD"

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

Ft. Gillem
BLDG. 101

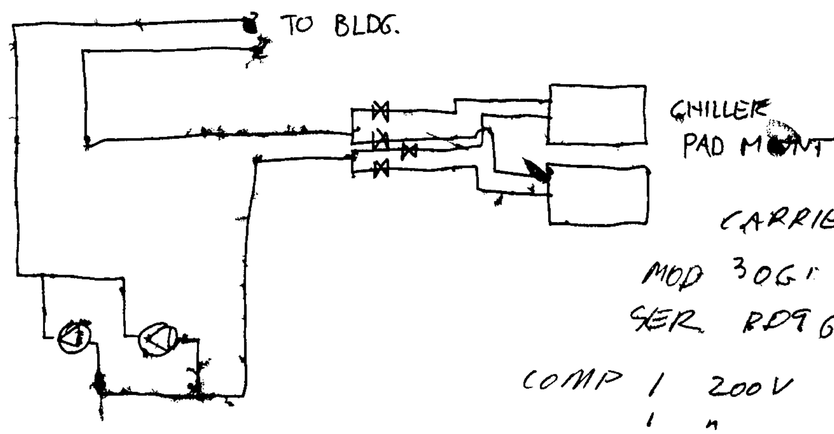
JOB ______

SHEET NO. ______ OF ______

CALCULATED BY ______ DATE ______

CHECKED BY ______ DATE ______

SCALE ______



CARRIER

MOD 30G[illegible] [illegible]5400
SER RD96703

COMP 1 200V 85.8 RLA 345 LRA
1 " 124.4

FAN MOTOR
200V 1 5.0 ~~HP~~
2 200V 4.6 0.38 HP.

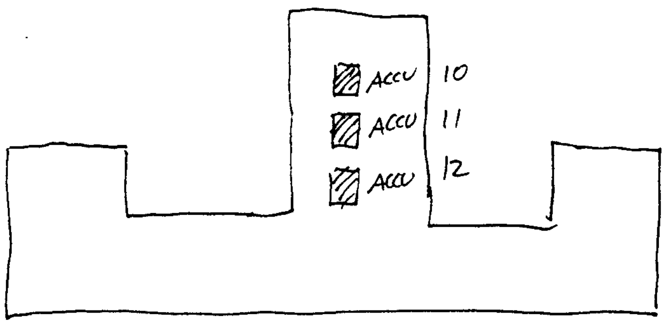
MOD 30GB045400
SER P096709

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

Ft. Gillem
Building 101

JOB ______
SHEET NO. ______ OF ______
CALCULATED BY KC DATE 1-7-92
CHECKED BY ______ DATE ______
SCALE ______



ROOF TOP BLDG 101

ACCU-12 TRANE
AMERICAN STANDARD INC.
MOD.# TTA090A300AA
SER# E23197815
COMP. 28.7A 208V 3ϕ
COND. FAN
3.8A 208V 230 1ϕ

ACCU-11 TRANE
AMERICAN STANDARD INC.
MOD# TTA120B300AB
SER# E24197948
COMP. 2-19.2A 208/230V 3ϕ
COND. FAN
1-7.7A 208/230V 1ϕ

ACCU-10 TRANE
MOD# TTA180B300AA
SER# E19198827
COMP. 2-24.1A 208/230V 3ϕ
COND FAN
2-3.8A 208/230V 1ϕ

JOB
SHEET NO. OF
CALCULATED BY CRL DATE
CHECKED BY DATE
SCALE

101

RUNS 24HRS FOR COMP. ROOM
CHW PUMP-1

MOTOR, MARATHON,
MODEL UVI 182TTDR7026DFL
FRAME 182T
3 ϕ
208V 9.4A
1760 RPM
3HP
81.5 EFF
77.7 PF

CHW PUMP-2 SAME, OFF (BACKUP)

PUMP TACO MODEL-FM 1508
72 GPM
55 FT HD

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

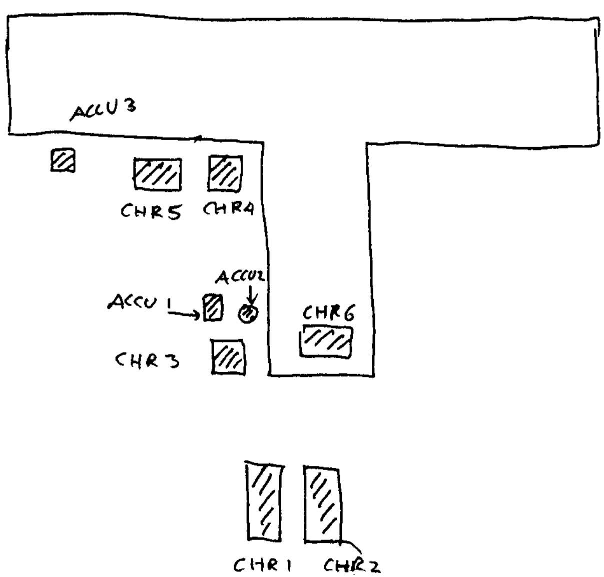
SHEET NO. OF

CALCULATED BY KC DATE 1/3/92

CHECKED BY DATE

SCALE

BLDG 101



CHILLER 4 - SNYDER GENERAL
MOD. ALR040C
SER 5UB0176600
COMP 1 20 HP 63 RLA 208V 3Ø
1 25 HP 77 RLA 208V 3Ø
COND FAN
4 1 HP 4 FLA 208V 3Ø

CHILLER 5 CARRIER
MOD 30GB070 530
SER. T698036
COMP. 2 208V 3Ø 119 RLA
1 280V 3Ø 76 RLA
COND. FAN
6 208V 3Ø 6.6 A 1.75 HP

ACCU-3 GW BOHN A/C & R DIVISION
MOD DVS0102B
SER BJK8122
208V 3Ø 2 FAN @ 1/2 HP. 2.4A
☎ (217) 446-3710

ACCU-1 CARRIER
MOD 38AE-014-500
SER Z981585
COMP. 1 208V 3Ø 49.3 A
COND. FAN ~~2~~ 1 ~~23~~ 208/230V 1Ø 3.7 A
1 208/230V 1Ø 4.3 A

CHILLER-3 TRANE
MOD CGAA-4006-FA-LA
SER L6H171712
TYPE No. 561-0061
COMP. 1 200-208V 3Ø 144 A
COND 3 200-208V 3Ø 6A 1 HP
VAR SPD FAN MTR 1 1Ø 6.7A 1HP.

ACCU-2 CARRIER
MOD 38TG048510
SER. Z389E10366
COMP 208/230V 3Ø 17.6A
FAN 208/230V 1Ø 1.6A.

CHILLER 6 CARRIER
MOD 30GB175600
SER T296253
COMP 4 460V 3Ø 52.1A
4 460V 3Ø 52.1A
COND FAN 6 460V 3Ø 3A 1.75HP
6 " ——— "

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB ______

SHEET NO. ______ OF ______

CALCULATED BY ______ DATE ______

CHECKED BY ______ DATE ______

SCALE ______

CARRIER

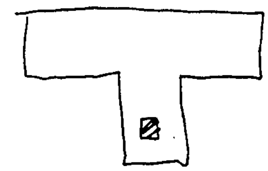
SERVE FIRST FLOOR

MOD. 40RR-012-550

SER. T981150

230V 3Ø 6.3A.

COOLING ONLY (DX)



CARRIER (SMALL)

SER 4489H05305

240V 1Ø 0.5HP 4.8A.

COOLING ONLY (DX)

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE

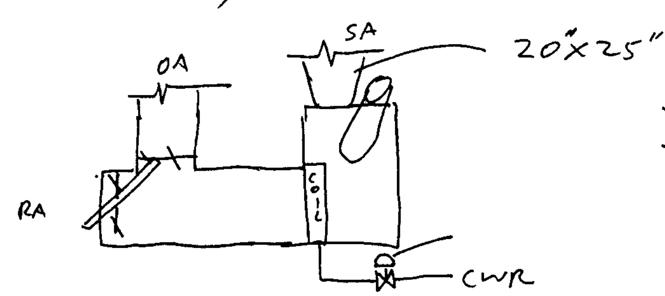
SCALE

DATA AIRE INC.

AHU 1ST FLOOR NEXT TO DATA AIRE

MCQUAY SER 3UB00102-06

HAS OA/RA DAMPER FIXED POSITION ALL WE HAVE TO DO IS OA DAMPER IN CLOSED POSITION
ADD CONTROL, MOTOR NOT ACCESSABLE



- PNEUMATIC CONTROL
- WITH TIME CLOCK WORKING.
- MODULATE VALVE FROM RETURN AIR.

JOB
SHEET NO. OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

FORTH FLOOR

AHU 1

MARATHON

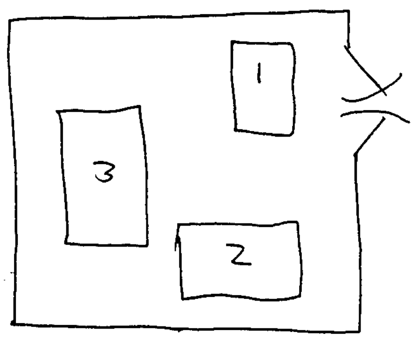
MOD. PVL 145TTDR7026DL

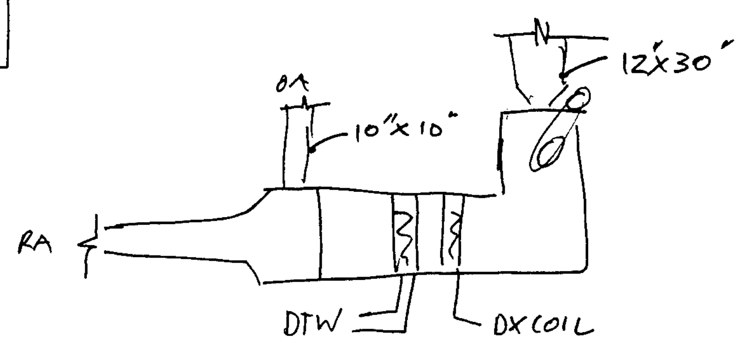
SER

FRAME 145T

208V 6A 3Ø 1735RPM

82.5 % eff 2HP.





HAS OA DAMPER ACTUATOR (ELEC.)

AHU 2

BUILDING 102

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/7/92

BLDG.# 102
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S ROOM SOUTH SIDE	128°F
AIR TEMP AT 1:30pm ⇒ 74°F	
AIR TEMP IN SHOP AREA ⇒ 79°F	
AIR TEMP IN WOOD SHOP ⇒	
WOODSHOP SINK	138°F
PROBLEMS:	

COMMENTS: HW PIPES MUST BE VERY RUSTY

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 102
ECO 5

MOTORS

MOTOR # CONDENSATE PUMPS 1 & 2 HP 3/4 PH 3 RPM 1750
MODEL # VOLTS 208/406 AMPS 5.6/2.8
SERIAL # PRESENT HR. TO
MFG LOUIS ALLIS REQUIRED HR. TO
FRAME 225YZ EFF.
DESCRIPTION COMMENTS LOCATED IN WOOD SHOP
TYPE: 0 S CLASS: N MOTOR NO.: 41728A

MOTOR # EXHAUST FAN #4 HP 1/2 PH 1 RPM 1725
MODEL # 5K454C VOLTS 115 AMPS 8.2
SERIAL # PRESENT HR. TO
MFG DAYTON REQUIRED HR. TO
FRAME EFF.
DESCRIPTION COMMENTS LOCATED IN WOOD SHOP

MOTOR # HP PH RPM
MODEL # VOLTS AMPS
SERIAL # PRESENT HR. TO
MFG REQUIRED HR. TO
FRAME EFF.
DESCRIPTION COMMENTS

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: ____ OF ____
CALCULATED BY: RC
CHECKED BY:
DATE: 1-7-92

BLDG.# 102
ECO 5 Ft-Gillem

MOTORS

MOTOR #		HP	1	PH	3	RPM	1800
MODEL #	6410 453	VOLTS	208V	AMPS	3		
SERIAL #		PRESENT HR.		TO			
MFG	BALDOR	REQUIRED HR.		TO			
FRAME	182	EFF.					
DESCRIPTION	AHU 1 & AHU 2	COMMENTS	T'STAT CONTROL				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-7-92

Ft. Gillem
BLDG.# 102
ECO 5

MOTORS

MOTOR #	1	HP	3/4	PH	1	RPM	1725
MODEL #	6N624A	VOLTS	115	AMPS	12		
SERIAL #		PRESENT HR.		TO			
MFG	DAYTON	REQUIRED HR.		TO			
FRAME	56	EFF.					
DESCRIPTION	EXHAUST FAN #1 INSHOP AREA.	COMMENTS	NOT RUNNING.				

MOTOR #	2	HP	1/4	PH	1	RPM	1725
MODEL #		VOLTS	115	AMPS	4.5		
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	UNIT HEATER #1 STM	COMMENTS	RUNNING.				

MOTOR #	3	HP	1/2	PH	1	RPM	1725
MODEL #		VOLTS	230	AMPS	3.3		
SERIAL #	1178920-B	PRESENT HR.		TO			
MFG	WESTINGHOUSE	REQUIRED HR.		TO			
FRAME	D56	EFF.					
DESCRIPTION	UNIT HEATER #2 STM	COMMENTS	NOT RUNNING.				

EMC ENGINEERS, INC.
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JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-7-92

Ft. Gillem

BLDG.# 102
ECO 5

MOTORS

MOTOR #	4	HP	1/6	PH	1	RPM	
MODEL #		VOLTS	115V	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	UNIT HEATER 3 & 4 STEAM COIL.	COMMENTS	NO NAME PLATE T'STAT CONTROL				

MOTOR #	5	HP	1/4	PH	1	RPM	
MODEL #		VOLTS	115V	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG	TRANE	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	UNIT HEATER 5 & 6, 7	COMMENTS	T'STAT CONTROL				

MOTOR #	6	HP	1/2	PH	1	RPM	1725
MODEL #	5K454C	VOLTS	115	AMPS	8.2		
SERIAL #		PRESENT HR.		TO			
MFG	DAYTON	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	EXH. FAN ~~3, 4~~ 5, 6	COMMENTS	NOT RUNNING ONLY SUMMER				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

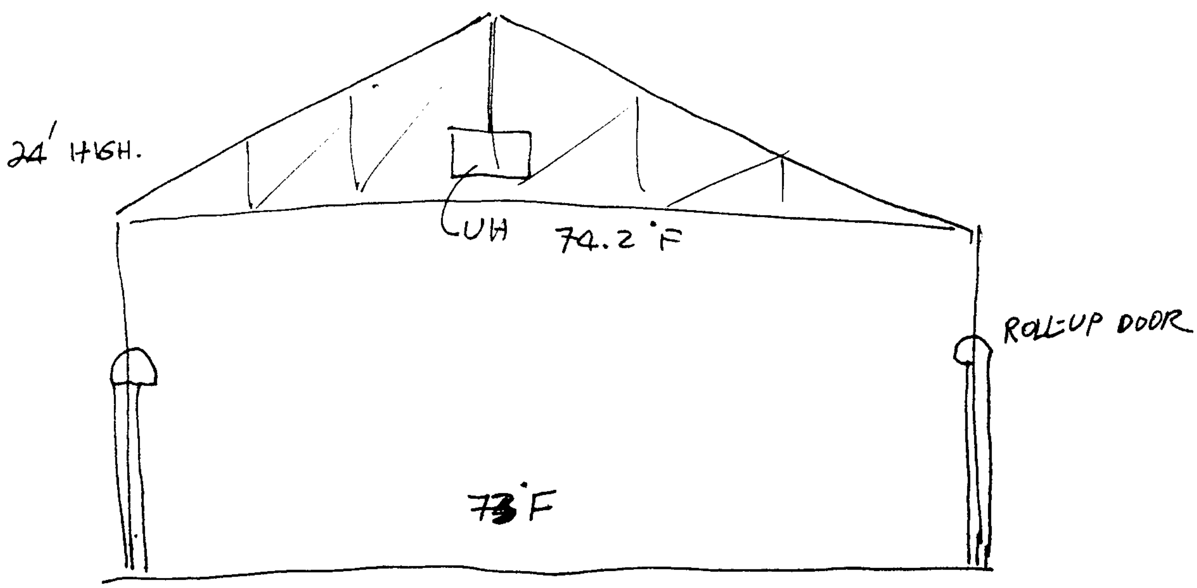
JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-7-92

BLDG.# 102
ECO 10 Ft. Gillem

AIR STRATIFICATION

LOCATION	WELDING SHOP	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	
TEMP. AT CEILING	74.2°F	OPP. HOURS	7:00 TO 4:00
TEMP. AT FLOOR	73°F		

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

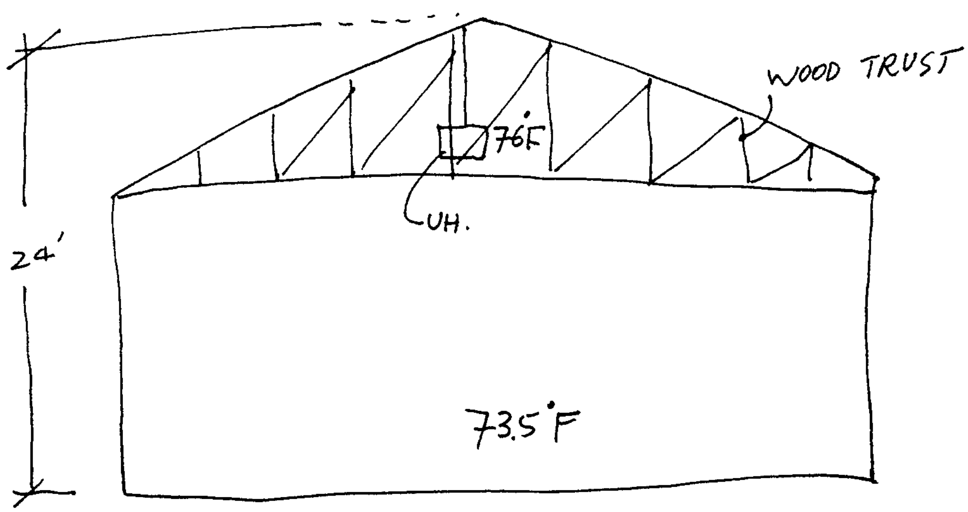
JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-7-92

BLDG.# 102
ECO 10

AIR STRATIFICATION

LOCATION: WOODSHOP
REQ. TEMP.:
TEMP. AT TSTAT:
SOURCE: UNIT HEATER
TEMP. AT CEILING: 76
OPP. HOURS: 7:30 TO 4:00
TEMP. AT FLOOR: 73.5

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



WOOD SHOP 2 UH.

COMMENTS:

JOB
SHEET NO. OF

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/7/92
CHECKED BY DATE
SCALE

BLDG 102

AC UNIT # 1 (SOUTH WEST)
CARRIER MOD# 38AE012500
S# R295693
COMPRESSOR (1) 208V 3ø 60Hz 43.6 RLA
170 LRA
R-22
FANS (2) 208V 4FLA

AC UNIT # 2 (SOUTH EAST)
CARRIER MOD# 38AE012500
S# R295692

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

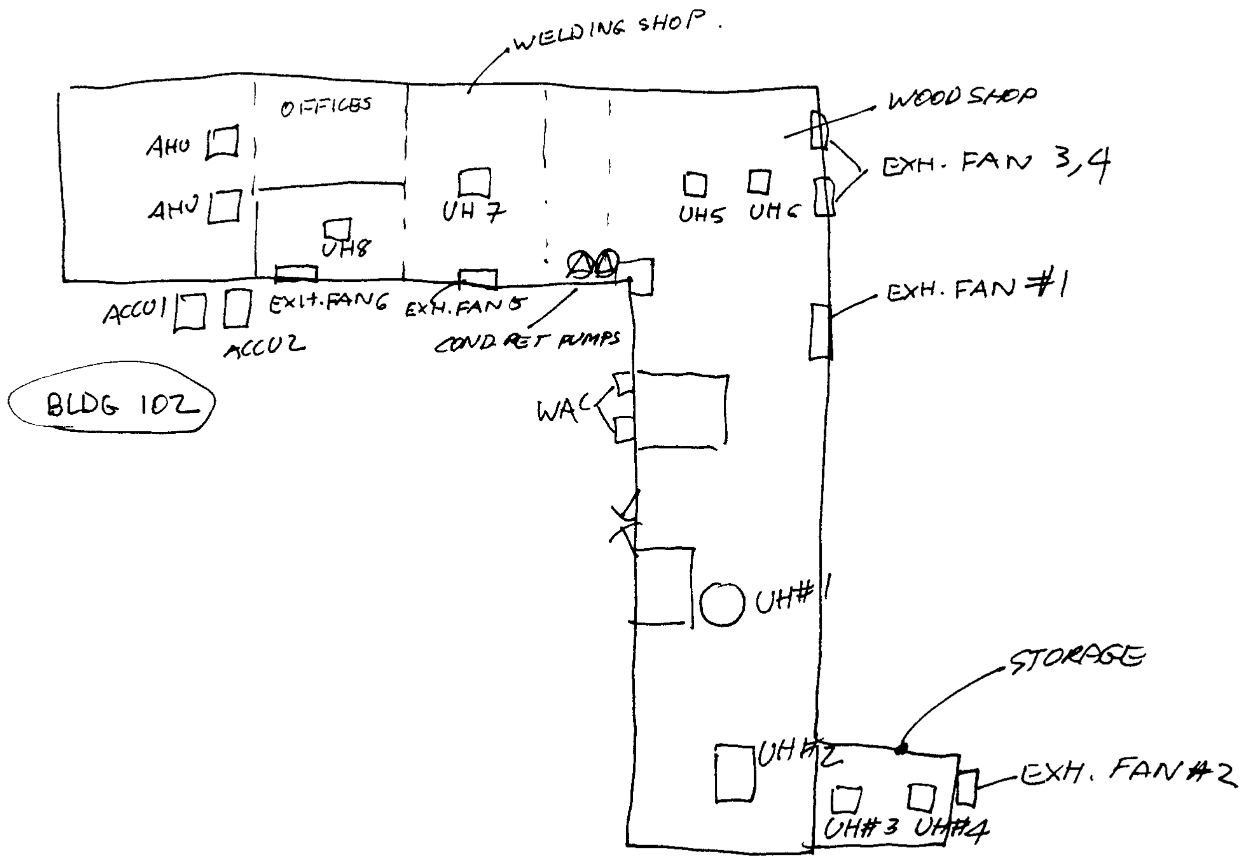
JOB

SHEET NO. OF

CALCULATED BY KC DATE 1-7-92

CHECKED BY DATE

SCALE



BUILDING 103

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1/2/92

BLDG.# 103
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
AHU ROOM (WASH SINK)	133.4
BATHROOM.	133.9

PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	
CHECKED BY:	
DATE:	

BLDG.# 103
ECO 5

MOTORS

MOTOR #	1	HP	3	PH	3	RPM	1750
MODEL #	6-342912-13	VOLTS	200	AMPS	9.6		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	CENTURY	REQUIRED HR.	0	TO	2400		
FRAME	S182T	EFF.					
DESCRIPTION	AHU	COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.	0	TO	2400		
MFG		REQUIRED HR.	0	TO	2400		
FRAME		EFF.					
DESCRIPTION	ROOF TOP-1	COMMENTS	NO ACCESS				

SERVES TELEPHONE EQUIP. ROOM

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.	0	TO	2400		
MFG		REQUIRED HR.	0	TO	2400		
FRAME		EFF.					
DESCRIPTION	ROOF TOP-2	COMMENTS	NO ACCESS				

SERVES TELEPHONE EQUIP. ROOM

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/2/91

BLDG.# 103
EC0 15

1st FLOOR
FIRE STATION
LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	2	4	34	FLOUR	ON	YES	YES	1	YES
2	4	2	34	F	OFF	YES	NO	2	NO
3	2	2	~~3~~ 34	F	ON	YES	NO	1	YES
4	1	2	34	F	OFF	YES	NO	1	NO
5A	1	1	150	~~F~~ I	OFF	YES	~~NO~~ YES	1	NO
5B	1	1	150	I	"	"	NO	1	NO
6	2	4	34	F	OFF	YES	YES	1	NO
7	1	1	150	I	ON	YES	NO	1	YES
8	5	2	8foot	F	ON	YES	NO	4	YES
9	~~4~~ 5	2	34	F	OFF	YES	NO	2	NO
10	1	1	100	I	ON	YES	NO	1	NO
10	1	2	34	F	ON	"	NO	1	NO
12	2	2	~~34~~ 40	F	OFF	YES	NO	1	NO
13	1	1	40	F	OFF	YES	NO	1	YES
14	1	2	8'	F	ON	YES	YES	1	YES

OF EXIT SIGNS –

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/2/92

BLDG.# 103 2nd FLOOR
EC0 15
TELEPHONE SWITCHING STATION
LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
15	20	2	40	F	ON	YES	NO	3	YES
15	4	2	8 FOOT 90 ~~40~~	F	ON	YES	NO	2	YES
16	1	2	32	F	ON	YES	NO	1	YES
17	3	4	34	F	ON	YES	YES	1	YES
18	1	1	75	I	ON	"	NO	1	YES
19	2	4	34	F	ON	YES	YES	1	YES
20	4	2-2 ~~4~~ 2-4	34	F	ON	YES	NO	1	NO
21	1	1	75	I	OFF	YES	NO	1	YES

OF EXIT SIGNS –

COMMENTS:

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

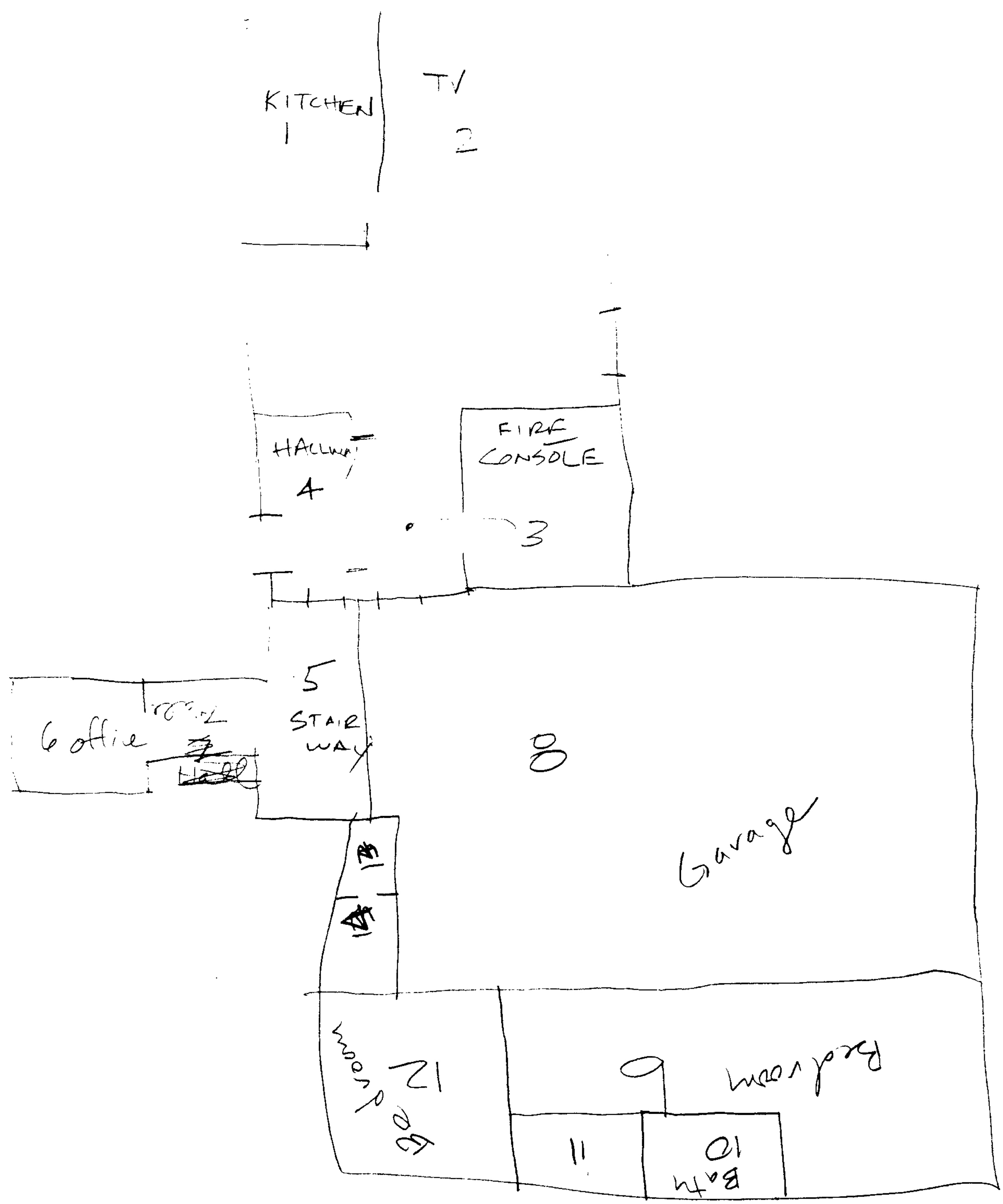
SHEET NO. OF

CALCULATED BY DATE

CHECKED BY [illegible] DATE 1/2/92

SCALE

103 1



E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

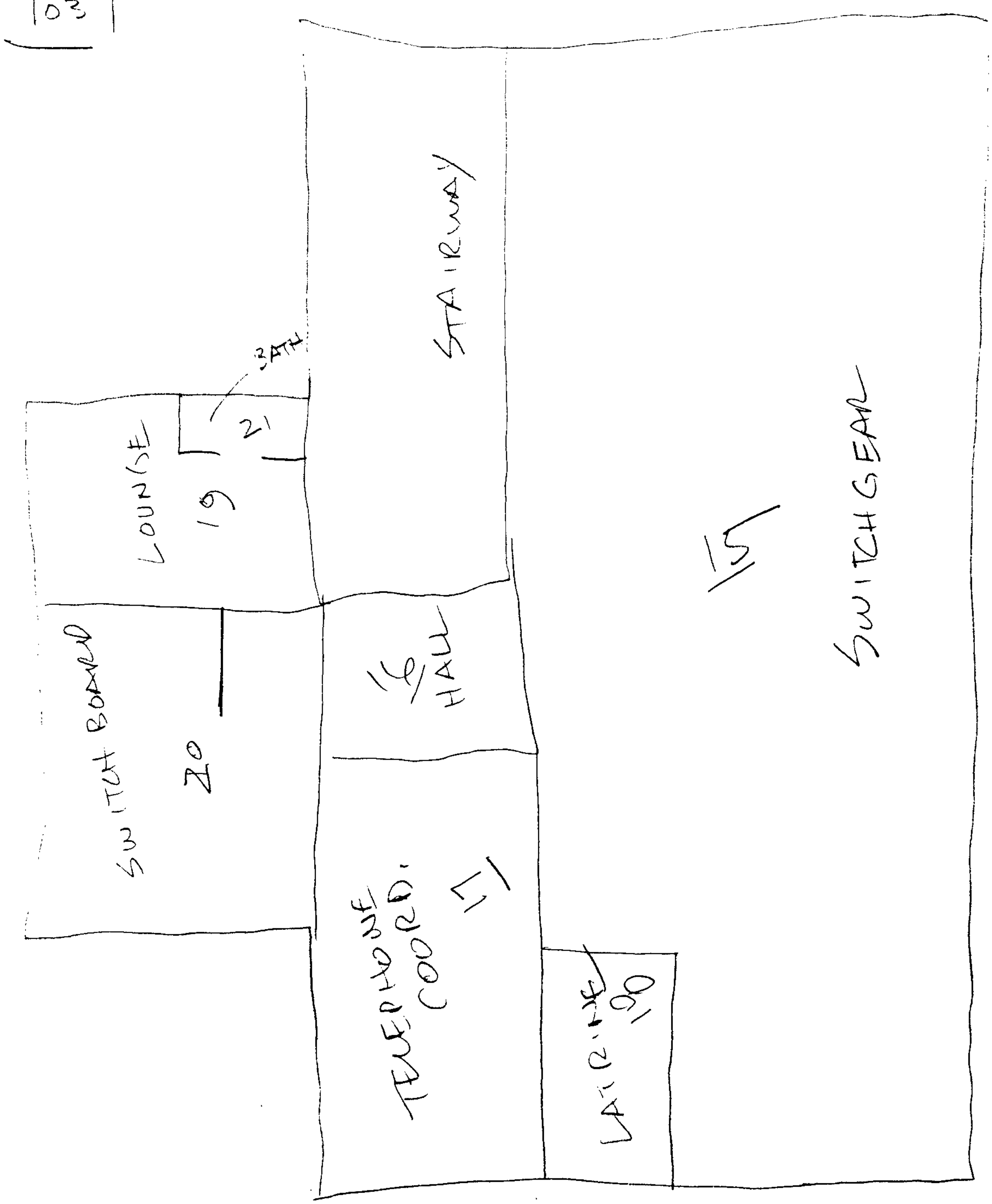
SHEET NO. OF

CALCULATED BY CRL DATE 1/2/92

CHECKED BY DATE

SCALE

103



BUILDING 133

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/2/92

BLDG.# 133
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
NORTH EAST MEN'S RM	155°F ~~(TOO HOT)~~
SOUTH KITCHEN SINK	152°F

PROBLEMS:	

COMMENTS: HOT WATER LINES TO NE BATHROOM VERY RUSTY (DIRTY WATER)

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1/2/92

BLDG.# A 133
ECO 5

MOTORS

MOTOR #	1	HP	3	PH	3	RPM	1735
MODEL #	SBDP	VOLTS	200	AMPS	11.4		
SERIAL #	7110N	PRESENT HR.	0	TO	2400		
MFG	WESTINGHOUSE	REQUIRED HR.		TO			
FRAME	182T	EFF.					
DESCRIPTION	AHU FAN (UPSTAIR) #1	COMMENTS	SECOND FLOOR				

MOTOR #	2	HP	3	PH	3	RPM	1735
MODEL #	SBDP	VOLTS	200	AMPS	11.4		
SERIAL #	7110 1	PRESENT HR.	0	TO	2400		
MFG	WESTINGHOUSE	REQUIRED HR.		TO			
FRAME	182T	EFF.					
DESCRIPTION	AHU FAN (UPSTAIR) #2	COMMENTS	SECOND FLOOR				

MOTOR #	3	HP	1.5	PH	1	RPM	3450
MODEL #	8-113851-23	VOLTS	230	AMPS	8		
SERIAL #		PRESENT HR.		TO			
MFG	GOULD	REQUIRED HR.		TO			
FRAME	L56	EFF.					
DESCRIPTION	AHU FAN (DOWN STAIR) #3	COMMENTS	CONTROL OFF T'STAT				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	
CHECKED BY:	
DATE:	

BLDG.#
ECO 5

MOTORS

MOTOR #	4	HP	?	PH		RPM	
MODEL #	G-H1201-20 M	VOLTS	115	AMPS	?		
SERIAL #		PRESENT HR.		TO			
MFG	CARRIER, COMFORTMAKER	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU BOTTOM FLOOR #4	COMMENTS	NOT ACC.				

MOTOR #	5	HP	1/8	PH	1	RPM	
MODEL #	UHQA-0810B	VOLTS	~~115~~ 240	AMPS	~~2~~ 0.8		
SERIAL #		PRESENT HR.		TO			
MFG	RUUD	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU #5	COMMENTS	HOME TYPE UNIT				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB ______

SHEET NO. ______ OF ______

CALCULATED BY ______ DATE ______

CHECKED BY ______ DATE ______

SCALE ______

133

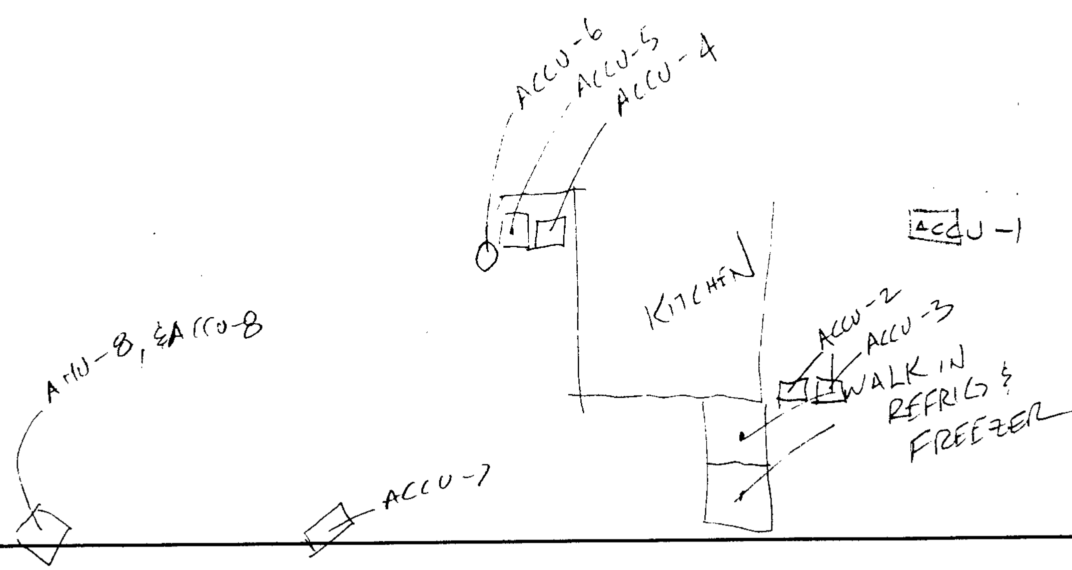
- ACCU-1 SERIES ______

  RUUD AIR CONDITIONER
  MODEL UACC-056CAS — est. 5 TON
  SER NO. 4147M2890 9117
  208V 3 φ 60 HZ
  20.5A

- ACCU-2 & 3 NO NAMEPLATE, SERIES WALK IN COOLERS

- ACCU-4 ~~& 5~~ OFF SERIES — est 10 ton

  CARRIER
  MODEL 38AE 016 500
  SER 2390F18891
  COMP 1, 208V, ~~[illegible]~~ 63.6A, 3 φ
  FAN 1, 208V, 3.7A, 1 φ
  2, 208V, 4.3A, 1 φ



E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

JOB ______
SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

133

ACCU-6 SERVES [illegible] ______
(OFF)
CLIMATE CONTROL
MODEL A.R 801060-25
SER 0135 810-L22-0024
COMP 230V, 15A, 3ϕ
FAN 230V, 2.5A, 1ϕ

ACCU-7 (OFF) SERVES ______
RUUD AIR CONDITIONER
MODEL UPFA 018JAS
SER NO 429 AM 3588 1365
208V, 10.5A, 1ϕ

AHU-8 & ACCU-8 (RUNNING)
TRANE, FORCED AIR FURNACE w/ ACCU
MODEL BYC 024H1LOAA
TYPE 168-740-1-A
60,000 BTU IN N.GAS
1 COMP- 11.8A, 208V, 1ϕ
1 COND FAN — 1.7A, 208V, 1ϕ, 1/4 HP
1 EVAP FAN — 2.5A, 208V, 1ϕ, 1/4 HP

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

JOB
SHEET NO. OF
CALCULATED BY FL DATE 1/2/92
CHECKED BY DATE
SCALE

133

GAS FIRED WATER HEATERS

-1, AO SMITH
MODEL BT 65 930A, 50 GAL
N.GAS FIRED
50,000 BTU/HR INPUT
45.5 GAL/HR

-2, AO SMITH
MODEL BT 270 830, 100 GAL
N.GAS FIRED
270,000 BTU/HR INPUT
234 GAL/HR

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 133

JOB

SHEET NO. OF

CALCULATED BY JW DATE 1/2/92

CHECKED BY DATE

SCALE

TEMPERATURES

NORTH EAST WING HALL $\Rightarrow$ 62°F

DINING HALL $\Rightarrow$ 69°F at 2:00pm

BUILDING 207

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/3/92

BLDG.# 207
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
SOUTH (BAY 1) ~~FAUCET~~ FAUCET	142°F
BAY-3 MEN'S	142°F
BAY-7 BREAKROOM	125°F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KL
CHECKED BY:	
DATE:	1/3/92

BLDG.# 207
ECO 5

MOTORS

MOTOR #	1	HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.	T'STAT CONTROL	TO			
MFG	SINGER	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	FURNACE SOUTH END, (AHU-1)	COMMENTS	NOT ACCESSABLE - HOME TYPE				

MOTOR #	2, 3, 5, 6, 7	HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME	~~K44~~	EFF.	~~8~~				
DESCRIPTION	UNIT HEATER SOUTH END WAREHOUSE	COMMENTS					

MOTOR #	8	HP	5	PH	3	RPM	1740
MODEL #	TVK184TTDR7627ACL	VOLTS	200	AMPS	14.8		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	MARATHON	REQUIRED HR.	7:30	TO	4:30		
FRAME	184T	EFF.	85.5				
DESCRIPTION	AHU2 SERVE OFFICES SOUTH END	COMMENTS	HW & DX COIL				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: ____ OF ____
CALCULATED BY:
CHECKED BY:
DATE:

BLDG.# 207
ECO 5

MOTORS

MOTOR #	12 0T00504	HP	5	PH	3	RPM	1720
MODEL #		VOLTS	208-230	AMPS	14-12.9		
SERIAL #	U5405 2620	PRESENT HR.	0	TO	2400		
MFG	AC SMITH	REQUIRED HR.	7:00	TO	4:30		
FRAME	184T	EFF.					
DESCRIPTION	AHU3 SOUTH OFFICE	COMMENTS	IN MECHROOM WITH ANOTHER AHU.				

MOTOR #	13 3N558A	HP	5	PH	3	RPM	1730
MODEL #		VOLTS	208-230	AMPS	14.2-13.4		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	DAYTON	REQUIRED HR.	7:00	TO	4:30		
FRAME	K184T	EFF.					
DESCRIPTION	AHU4 SOUTH OFFICE IN MECHROOM WITH ONE ABOVE	COMMENTS	KVAR 1.3				

MOTOR #	14	HP	1	PH		RPM	1725
MODEL #	186277-01	VOLTS	230	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG	CENTURY	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	COMPUTER ROOM SOUTH END	COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	
CHECKED BY:	
DATE:	

BLDG.# 207
ECO 5

MOTORS

MOTOR #	9	HP	1/8	PH	1	RPM	1725
MODEL #		VOLTS	115	AMPS	2.4		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	BELL GOSSETT	REQUIRED HR.	7:30	TO	4:00		
FRAME		EFF.					
DESCRIPTION	HW PUMP BOILET TO AHU COIL.	COMMENTS					

MOTOR #	10	HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	ACCU FOR AHU MOTOR #8	COMMENTS					

MOTOR #	11	HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG	DAYTON	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	ELECTRIC HEATER & BLOWER	COMMENTS	VERY SMALL				

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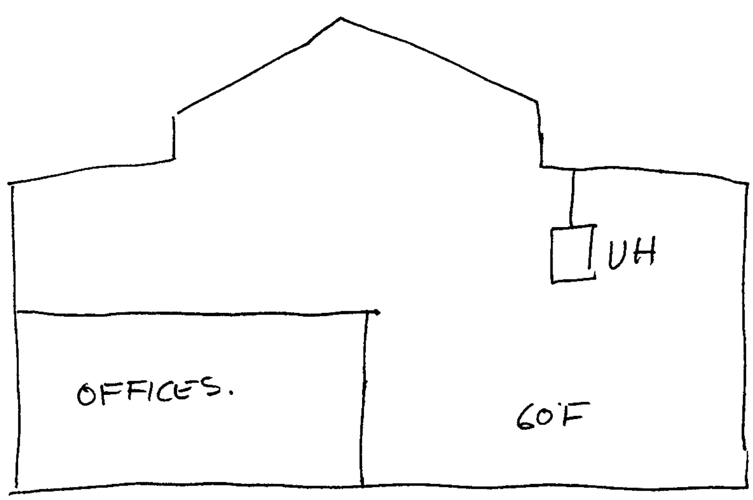
JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1/3/92

BLDG.# 207
ECO 10

AIR STRATIFICATION

LOCATION	STORAGE	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	
TEMP. AT CEILING		OPP. HOURS	TO
TEMP. AT FLOOR	60°F		

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: COMPUTER & SUPPLIES STORAGE

EMC ENGINEERS, INC.
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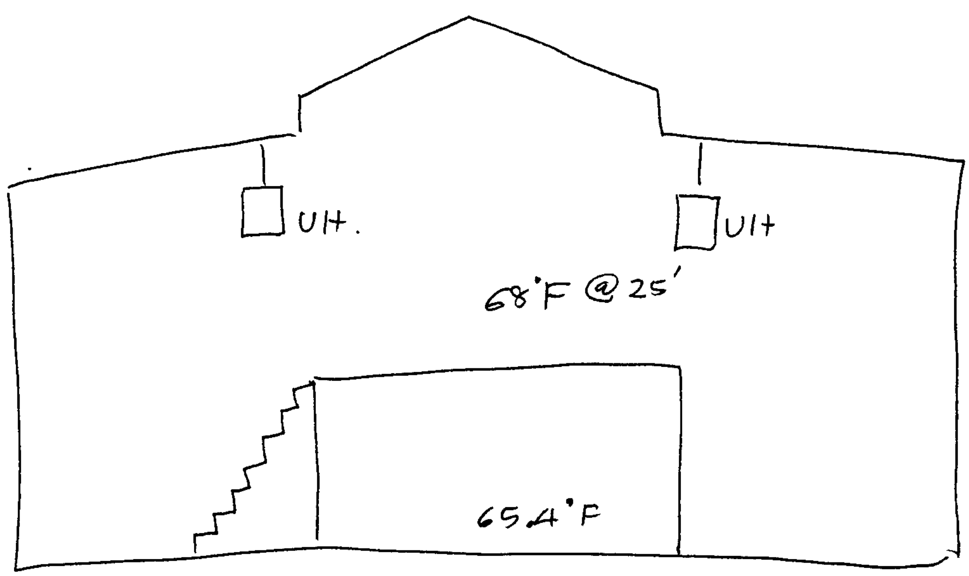
JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KL
CHECKED BY:	
DATE:	1/3/92

BLDG.# 207
ECO 10

AIR STRATIFICATION

LOCATION	NORTH END	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UNIT HEATER
TEMP. AT CEILING	68° F	OPP. HOURS	TO
TEMP. AT FLOOR	65.4° F	T'STAT	
		GAS FIRE	

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: BAY 7

EMC ENGINEERS, INC.
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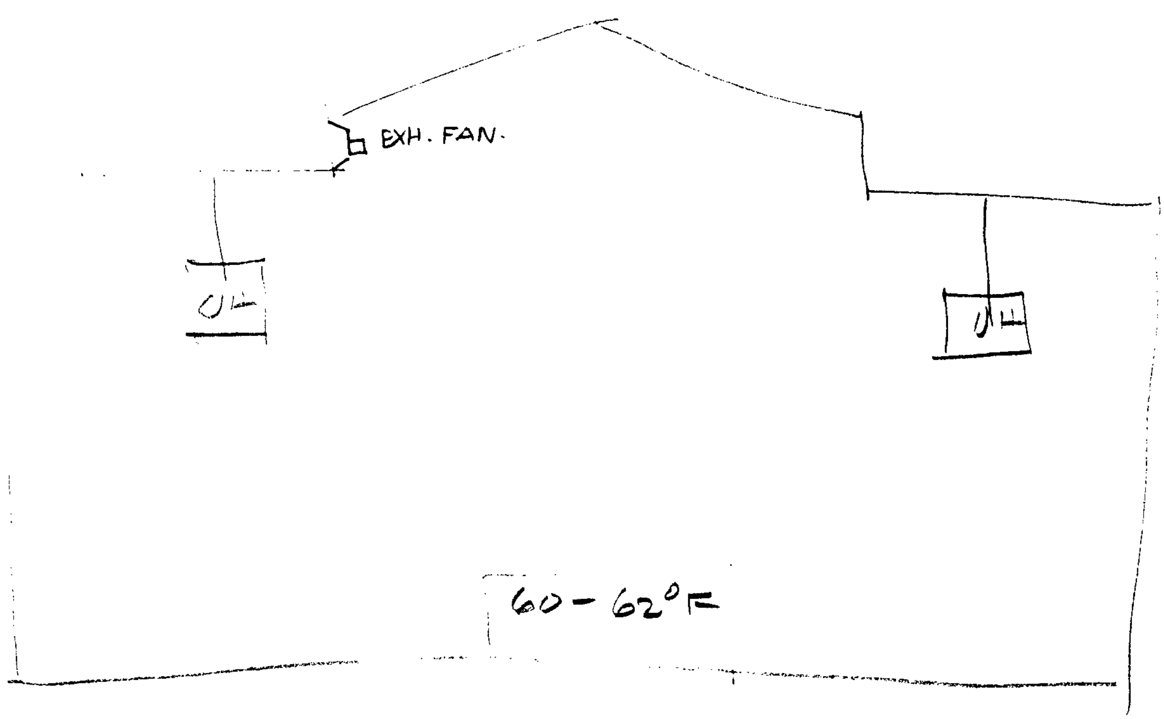
JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1/3/92

BLDG.# 207
ECO 10

AIR STRATIFICATION

LOCATION	207 SOUTHEND	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	
TEMP. AT CEILING		OPP. HOURS	7:30 TO 4:30
TEMP. AT FLOOR			

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: FOOD STORAGE

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/6/92

BLDG.# 207
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
BAY 4	45	2	8'	F	ON	Y	NO		Y
BAY 5	45	2	8'	F	ON	Y	NO		Y
130	15	1	60	I	OFF	Y	N		N
131	4								

OF EXIT SIGNS – ________

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/91

BLDG.# 207
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
54	SAME AS 53								
55	2	4	34	F	OFF	Y	Y	1	NO
56	88	2	34	F	ON	Y	NO	8	NO
57	6	4	34	F	ON	Y	Y	1	Y
58	6	4	34	F	ON	Y	Y	1	Y
59	3	4	34	F	OFF	Y	Y	1	NO
60	90	2	34	F	ON	Y	N	8	N
61	3	2	34	F	OFF	Y	Y	1	NO
62	3	4	34	F	ON	Y	N	1	Y
63	3	2	34	F	ON	Y	N	1	NO
64	1/2	1/2	100/34	I/F	ON	Y	N	1	NO
65	2	2	8'	F	OFF	Y	N	1	NO
66	1	2	8'	F	ON	Y	N	1	YES
67	1	1	60	I	ON	Y	Y	1	YES

OF EXIT SIGNS – ________

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 207
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
36	4	4	34	F	ON	Y	Y	1	Y
37	locked								
38	35	2	8'	F	ON	Y	NO	Breakers	Y
39	6	4	34	F	ON	Y	NO	1	NO
40	6	4	34	F	ON	Y	NO	1	NO
41	66	2	8'	F	ON	Y	NO	∞	Y
42	40	2	8'	F	ON	Y	NO	?	Y
43	1	2	34	F	ON	Y	NO	1	Y
44	6	4	34	F	OFF	Y	Y	1	NO
(1) 45	21	2	34	F	ON	Y	NO	1	NO
46	4	4	34	F	OFF	Y	Y	1	NO
47	3	4	34	F	OFF	Y	Y	1	NO
48	2	4	34	F	OFF	Y	Y	1	NO
49	2	4	34	F	ON	Y	Y	1	YES
50	4	4	34	F	ON	Y	Y	1	Y
51	4	4	34	F	ON	Y	Y	1	NO
52	2	4	34	F	ON	Y	Y	1	Y
53	6	4	34	F	ON	Y	N	1	Y

OF EXIT SIGNS – ______

COMMENTS: (1) 4 corner lights are emergency

EMC ENGINEERS, INC.
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JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 207
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
18									
19	2	4	34	F	ON	Y	NO	1	NO
dl 20	2	4	34	F	ON	Y	Y	1	YES
21	6	2-U	?	F	ON	Y	Y	1	NO
dl 22	6	2-U		F	ON	Y	Y	1	Y
23	4	4							
24	6	4	34	F	ON	Y	N	1	N
25	8	4	34	F	ON	Y	Y	2	Y
26	3	4	34	F	ON	Y	NO	1	NO
27	6/2	4/2-U	34	F	ON	Y	NO	2	NO
28	6	2-U	.	F	ON	Y	Y	1	NO
29	14	4	34	F	ON	Y	NO	3	NO
30	2/1	4/2-U	34	F	ON	Y	Y	1	NO
31	2/2	4/2-U	34	F	OFF	Y	Y	1	NO
32	2/2	4/2-U	34	F	ON	Y	NO	1	Y
33	6	4	34	F	ON	Y	NO	1	NO
34	2	4	34	F	ON	Y	Y	1	Y
35	2	2	8'	F	OFF	Y	Y	1	NO

OF EXIT SIGNS – ________

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 207
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	10	4	34	F	ON	Y	NO	2	NO
2	2	4	34	F	ON	Y	YES	1	YES
3	1	2	8'	F	OFF	Y	Y	1	NO
4	SAME	↑↑							
5	15	2	8'	F	ON	Y	NO	(3) BREAKERS	NO
6	4	4	34	F	ON	Y	Y	1	YES
7	43	2	8'	F	ON	Y	NO	BREAKERS	YES
8	2	2	8'	F	ON	Y	NO	1	NO
9	3	4	34	F	ON	Y	NO	1	NO
10	1	1	34	F	ON	Y	NO	1	Y
11	4	2	34	F	OFF	Y	YES	1	NO
12	5	4	34	F	ON	Y	Y	1	NO
13	6	4	34	F	ON	Y	Y	1	NO
14A	2	4	34	F	ON	Y	N	1	NO
14B	4	4	34	F	ON	Y	N	1	NO
15	6	4	34	F	ON	Y	N	1	NO
16	7	4	34	F	ON	Y	N	1	NO
17	4	2-U	?	F	OFF	Y	Y	1	NO

OF EXIT SIGNS – ______

COMMENTS:

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB ______

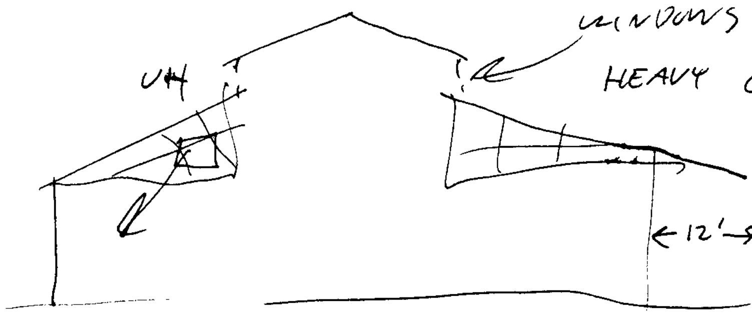
SHEET NO. ______ OF ______

CALCULATED BY ______ DATE ______

CHECKED BY ______ DATE ______

SCALE ______

207



WINDOWS ~4' H
HEAVY GREEN TINT
GLASS + FG(GREEN)

SINGLE PANE GLASS @ 8'x8'

1" CRACK UNDER STEEL MAN DOORS

1/2" " PERIMETER GARAGE DOORS(SLIDING) 10'x10'

CEMENT ROOF (NO INSUL)

WALL DOUBLE BRICK

STEEL FRAME CONSTRUCTION

TRUCK DOOR LEFT OPEN WITH U/H RUNNING

WALLS 3 LAYERS BRICK NO AIR SPACE

BUILDING 213

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/6/92

BLDG.# 213
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S ROOM BAY-5	122°F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR #	10	HP	7.5	PH	3	RPM	1750
MODEL #	6-330771-03	VOLTS	230/460	AMPS	21/10.5		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	GOULD	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HEATING SUPPLY #2	COMMENTS	WINTER ONLY NOT RUNNING				

MOTOR #	13	HP	3.0	PH	3	RPM	3450
MODEL #	8-350378-01	VOLTS	200 230/460	AMPS	9.0-8.6/4.3		
SERIAL #		PRESENT HR.		TO			
MFG	CENTURY	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	CONDENSATE PUMP #1	COMMENTS	FLOAT SWITCH				

MOTOR #	14	HP	3	PH	3	RPM	3450
MODEL #	8-350378-01	VOLTS	200-230/460	AMPS	9.0-8.6/4.3		
SERIAL #		PRESENT HR.		TO			
MFG	CENTURY	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	CONDENSATE PUMP #2	COMMENTS	FLOAT SWITCH				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR #	12	HP	10	PH	3	RPM	1745
MODEL #	MK215TTDR7026HTW	VOLTS	208-230	AMPS	26.6		
SERIAL #		PRESENT HR.		TO			
MFG	MARATHON	REQUIRED HR.		TO			
FRAME	215T	EFF.	86.5				
DESCRIPTION	CWP RETURN 2	COMMENTS	SUMMER ONLY * CAN NOT TAKE READING.				

MOTOR #	11	HP	10	PH	3	RPM	1725
MODEL #	MK 215TTDR7026HT W	VOLTS	208-230	AMPS	26.6		
SERIAL #		PRESENT HR.		TO			
MFG	MARATHON	REQUIRED HR.		TO			
FRAME	215T	EFF.	86.5				
DESCRIPTION	CWP 1	COMMENTS	SUMMER ONLY * CANNOT TAKE READING.				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR #	18	HP	3	PH	3	RPM	
MODEL #	BWV180B300BA	VOLTS	200-230	AMPS	9		
SERIAL #		PRESENT HR.		TO			
MFG	American Standard	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU #1	COMMENTS	Room 128				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU	COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	CS
CHECKED BY:	
DATE:	1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR #	4	HP	2	PH	3	RPM	1740
MODEL #	8-339207-1	VOLTS	208/416	AMPS	7/3.5		
SERIAL #		PRESENT HR.		TO			
MFG	Gould	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	CWP #3	COMMENTS	ONLY IN SUMMER				

MOTOR #	5	HP	15	PH	3	RPM	1755
MODEL #	F-1713-02-234	VOLTS	200	AMPS	49		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	U.S. Electric Motor	REQUIRED HR.	7:30	TO	4:30		
FRAME	254 T	EFF.	87.5				
DESCRIPTION	AHU-Supply #2	COMMENTS					

KVAR ~~5.6~~ 3.2 KVA 5.5 PF 81.4
KW 4.5

PHASE	A	B
VOLT	208	205
AMP	27.7	26.7

MOTOR #	6	HP	3/4	PH	1	RPM	1725
MODEL #	M-270 A	VOLTS	115	AMPS	10.8		
SERIAL #		PRESENT HR.		TO			
MFG	LELAND-FARADAY	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	Return #1	COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR # 1 HP PH RPM
MODEL # VOLTS AMPS
SERIAL # PRESENT HR. 0 TO 2400
MFG CARRIER REQUIRED HR. TO
FRAME EFF.
DESCRIPTION AHU - CARRIER #4 COMMENTS CANNOT READ NAMEPLATE
SECTION 6 SELF CONTAIN WITH COMPRESSOR @ BOTTOM

MOTOR # 2 HP 0.5 PH 1 RPM
MODEL # 50EE024-331-MD2 VOLTS 208/230 AMPS 4.6
SERIAL # PRESENT HR. TO
MFG CARRIER REQUIRED HR. TO
FRAME EFF.
DESCRIPTION AHU-PADMOUNT #5 COMMENTS
SECTION 6

MOTOR # 3 HP 1 PH 3 RPM 1740
MODEL # 3-339206-1 VOLTS 208 AMPS 3.75
SERIAL # PRESENT HR. TO
MFG GOULD REQUIRED HR. TO
FRAME EFF.
DESCRIPTION HWP ~~#~~ #3 COMMENTS ONLY IN WINTER

EMC ENGINEERS, INC.
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JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	CS
CHECKED BY:	
DATE:	1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR #	15	HP	1/12	PH	1	RPM	1725
MODEL #	M09181 1-89	VOLTS	115	AMPS	1.75		
SERIAL #		PRESENT HR.		TO			
MFG	Bell Gossett	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HWP #1	COMMENTS	Room 128				

MOTOR #	16	HP	1/12	PH		RPM	1725
MODEL #	M091811-89	VOLTS	115	AMPS	1.75		
SERIAL #		PRESENT HR.		TO			
MFG	Bell Gossett	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HWP #2	COMMENTS	Room 128				

MOTOR #	17	HP	2	PH	3	RPM	
MODEL #	BTE120B400GA	VOLTS	200-230	AMPS	6.6		
SERIAL #		PRESENT HR.		TO			
MFG	TRane	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU #3	COMMENTS	Room 128				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	CS
CHECKED BY:	
DATE:	1-6-92

BLDG.# 213
ECO 5

MOTORS

MOTOR #	7	HP	3/4	PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	Return #2	COMMENTS	Could not read				

MOTOR #	8	HP		PH		RPM	
MODEL #		VOLTS	120	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	FCU 1-6	COMMENTS	CEILING MOUNT UNIT T'STAT CONTROL				

MOTOR #	9	HP	7.5	PH	3	RPM	1750
MODEL #	6-330771-03	VOLTS	230/460	AMPS	21/10.5		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	GOULD	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HEATING SUPPLY #1	COMMENTS	WINTER ONLY RUNNING				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	
CHECKED BY:	
DATE:	

BLDG.# 213
ECO 5

MOTORS

MOTOR #	AHU-2	HP	7.5	PH	3	RPM	1750
MODEL #	6-330771-03	VOLTS	230/460	AMPS	21/10.5		
SERIAL #		PRESENT HR.		TO			
MFG	Century	REQUIRED HR.		TO			
FRAME	21T	EFF.	82.9	PF 80.7			
DESCRIPTION		COMMENTS					

MOTOR #	AHU ~~8~~	HP	5	PH	3	RPM	1750
MODEL #	6-322465-03	VOLTS	230/460	AMPS	14.4/7.2		
SERIAL #		PRESENT HR.		TO			
MFG	Century	REQUIRED HR.		TO			
FRAME	5184T	EFF.	81.6	PF 79.7			
DESCRIPTION	Fire Range	COMMENTS					

MOTOR #	AHU-1	HP	5	PH	3	RPM	1745
MODEL #	EK184AL217C	VOLTS	230/460	AMPS	14.2/7.1		
SERIAL #		PRESENT HR.		TO			
MFG	GE	REQUIRED HR.		TO			
FRAME	184T	EFF.	—				
DESCRIPTION		COMMENTS	Service factor 1.15				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 213
EC0 15

LIGHTING

'EAL #	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
7	1	8	2		F	ON		N	1	N
24	1-A	4	4		F	ON		N	1	N
24	1B	8	2		F	ON		N	1	N
8	2	3	2		F	ON		Y	1	N
12	3	3	2		F	ON		Y	1	N
11	4	2	4		F	ON		Y	1	N
	5	A								
'eception	6	A								
	7	12	4		F	ON		N	2	N
	8	2	4		F	ON		N	1	N
	9	3	4		F	ON		N	1	N
13	10	5	4		F	ON		N	1	Y
	11	6	2		F	ON		N	1	N
	12	6	2		F	ON		N	1	N
17	13	6	4		F	ON		N	1	N
21	14	3	4		F	ON		N	1	N
23	15	2	1	40	I	OFF		N	1	N
19	16	1	1	34	F	OFF	Y	Y	1	N.

OF EXIT SIGNS – ______

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 213
EC0 15

LIGHTING

Actual Room	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
20/22	17 & 18	SAME AS 14-15								
67	19	11	4		F	ON	Y	N	2	N
70	20	2	2		F	ON	Y	N	1	N
77	21	4/9	1/1	150/34	I/F	ON	Y	N	1	Y
71	22	2	2		F	ON	Y	N	1	Y
72	23	2	2		F	ON	Y	Y	1	Y
73	25	2	4		F	ON	Y	Y	1	Y
75	24	8	4		F	ON	Y	N	1	Y
74	26	2	2		F	ON	Y	Y	1	Y
76	27	19	2		F	ON	Y	N	1	Y
PHOTO LAB	28	14	2		F	ON	Y	N	2	N
93	29	4	4		F	OFF		N	1	N
96	30	1	4		F	OFF		N	1	N
97	31	[illegible]								
MICRO-PHOTO	32	1	4		F	OFF		N	1	N
98	33	2	4		F	OFF		N	1	N
100	34	16	4		F	ON		N	4	N
~~EXP~~	35*	1	1	10	I	OFF		N	1	N

OF EXIT SIGNS –

COMMENTS: * GUN ROOM

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/3/92

BLDG.# 213
EC0 15

LIGHTING

Actual Room	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
HEM MIX	~~39~~	1	4		F	ON		N	1	N
91	40	2	4		F	ON		N	1	N
79	41	2	4		F	ON		N	1	N
78	42	3	4		F	ON		N	2	N
108	43	4	4		F	ON		N	2	N
107	44	2	4		F	ON		Y	1	N
1[illegible]	45	2	4		F	OFF		N	1	
110	46	3	4		F	ON		N	1	
106	47	2	4		F	ON		N	1	N
104	48	↑				ON		N	1	N
102	49	↑				ON		N	1	N
101	50	1	2		F	ON		N	1	N
105	51	2	4		F	ON		Y	1	Y
64	52	20	4		F	ON		N		NO
59	53	5	4		F	OFF		N	1	NO
Footwear room	54	3	4		F	OFF		N	1	N
Laser room	55	3	4		F	OFF		N	1	N
Auto Room	56	6	LOW PRESS. SODIUM		I	OFF		N	1	N

OF EXIT SIGNS – ______

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JS
CHECKED BY:
DATE: 1-6-92

BLDG.# 213
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
110	3	4	34	F	ON	Y	N	1	Y
	3	2 (U)	40	F	ON	Y	N	1	Y
113	4	2 (U)	40	F	OFF	Y	Y	1	N
114	4	2 (U)	40	F	ON	Y	Y	1	N
116	4	2 (U)	40	F	ON	Y	N	1	N
117	20	4	34	F	ON	Y	N	2	Y
	8	2 (U)	40	F	ON	Y	N	2	Y
119	3	2 8'		F	ON	Y	N	1	N
121	9	4	34	F	ON	Y	N	1	N
122	6	2 (U)	40	F	ON	Y	N	1	N
123	21	2 8'		F	ON	Y	N	5	N
125	2	4	34	F	ON	Y	N	1	Y
	1	2 (U)	40	F	OFF	Y	N	1	Y
127	3	4	34	F	ON	Y	N	1	Y
	1	2 (U)	40	F	OFF	Y	N	1	Y
128	3	2 8'		F	OFF	Y	N	1	N
129	5	2 8'		F	ON	Y	N	6	Y
	12	1	60	I	ON	Y	N	6	Y

OF EXIT SIGNS –

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/6/92

BLDG.# 213
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
103	3	4	34	F	ON	Y	Y	1	Y
104	2	4	34	F	ON	Y	Y	1	N
102	4	4		F	ON	Y	N	1	Y
105	2	4		F	ON	Y	Y	1	N
108	12	4		F	ON	Y	N	2	N
109	6	4		F	OFF	Y	N	2	N
110	10	2		F	OFF	Y	N	1	N
112	10	4		F	ON	Y	N	2	N
115	14/2	4/2U	34/?	F	ON	Y	N	2	N
118	4	2-U		F	ON	Y	Y	1	N
120	9	4	34	F	ON	Y	N	2	N
124	14	4	34	F	ON	Y	N	1	N
126	1	2U		F	OFF	Y	N	1	N
129	32	4	34	F	ON	Y	N		N

OF EXIT SIGNS – 2

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1/6/92

BLDG.# 213
EC0 15

LIGHTING

Actual Room	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
	58	4	2 (U)	34	F	ON	Y	N	1	Y
56	59	4	4	34	F	ON	Y	N	1	N
55	60	2	4	34	F	ON	Y	N	1	N
CLEAN UP	61	2	4	34	F	ON	Y	N	1	Y
[illegible]	62	4	4	34	F	ON	Y	N	1	N
52	63	2	4	34	F	ON	Y	N	1	Y
51	64	16	4	34	F	ON	Y	N	3	N
	65	2	4	34	F	ON	Y	Y	1	Y
	66	2	4	34	F	ON	Y	Y	1	N
45	69	2	4	34	F	ON	Y	Y	1	N
48	70	48	4	34	F	ON	Y	N	2	N
		22	1	2' 20	F	ON	Y	N	2	N
42	74	28	4	34	F	ON	Y	N	1	N
		6	1	30" 30	F	ON	Y	N	1	N
	79	4	4	34	F	ON	Y	Y	1	N
27	80	13	4	34	F	ON	Y	N	2	N
30	85	2	4	34	F	ON	Y	Y	1	N
	86	1	2 (U)	34	F	OFF	Y	N	1	N

OF EXIT SIGNS –

COMMENTS: NOTE: BAY 5 HAS 58.8KW LIGHTING

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-6-92

BLDG.# 213
EC0 15

LIGHTING

	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
34	88	4	4	34	F	ON	Y	N	1	Y
37	90	6	4	34	F	OFF	Y	N	1	N
38	92	6	4	34	F	ON	Y	Y	1	N
	~~93~~	~~81~~	~~4~~	~~34~~						
		~~2~~	~~2~~	~~34~~						
39	93	2	2 (u)	34	F	ON	Y	Y	1	Y
	94	235*	2	34	F	ON	Y	N		N
	95	4	4	34	F	ON	Y	Y	1	Y
	96	1	1	60	I	ON	Y	Y	1	Y
	97	5	4	34	F	ON	Y	N	2	Y
	98	7	1	75	I	OFF	Y	N	1	N
	99	12	4	34	F	ON	Y	N	5	N
		1	2 (u)	40	F	OFF	Y	N	2	N
	100	1	2 (u)	34	F	OFF	Y	N	1	N
	101	1	1	60	I	OFF	Y	N	1	N
	102	4	4	34	F	ON	Y	N	2	Y
	106	10	4	34	F	ON	Y	N	2	N
	107	2	4	34	F	ON	Y	N	1	Y

OF EXIT SIGNS – ____

COMMENTS: * Half of the possible lights are on
approx. 200 lights off

EMC ENGINEERS, INC.
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SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/3/92

BLDG.# 213
EC0 15

LIGHTING

ACTUAL ROOM	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
66	57	2	4	34	F	OFF	Y	N	1	N
46	67	3	4	34	F	ON	Y	N	1	Y
47	68	2	4	34	F	ON	Y	Y	1	Y
	71	2	4		F	ON	Y	N	1	N
	72	2	4		F	OFF	Y	N	1	N
	73	1	4		F	OFF	Y	N	1	N
41	75	14	4		F	ON	Y	N	2	N
39	76	23	4		F	ON	Y	N	2	N
	77	2	4		F	OFF	Y	Y	1	N
32	78	6	4		F	ON	Y	Y	2	Y
26	81	2	4		F	ON	Y	Y	1	Y
25	82	2	4		F	OFF	Y	Y	1	NO
28	83	2	4		F	ON	Y	Y	1	NO
29	84	3	4		F	ON	Y	Y	1	NO
33	87	3	4		F	ON	Y	N	1	N
35	89	2	4		F	OFF	Y	Y	1	N
	90	5	4		F	ON	Y	N	1	N
36	91	2	4		F	OFF	Y	Y	1	N

OF EXIT SIGNS – ______

COMMENTS:

JOB
SHEET NO. OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

Bldg 213

Air Comp

7.5 HP 3ϕ 1730 Rpm

Model # BL-75-18-213T WEG - Brazil

230/460V 20/10 Amps

eff —

Heat Pump

Carrier Tech 2000

Model #: 38YH024300

230V 1ϕ 60 Hz 13.7 RLA 61 LRA - Compressor

230V 1ϕ 9 FLA - Fan

Heat Pump 2

Hussmann 208V

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

Bldg 213

- 1 Air Handler - Inst Room
- 2 Air Handler - Chemistry Dry
- 3 Air Handler - Serology
- 4 Air Handler - Latent Prints
- 5 Air Handler - Supply - Section Front of Building
- 6) Air Handler - Photo Rooms
- 7 Air Handler - Questions + Documents
- 8) Air Handler - Fire Arms

Hot Water Chilled water ~~Blow~~ draw though

single zone

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/30/92

CHECKED BY DATE

SCALE

C1D BLDG # 213

MOTORS

AHU #3
GOULD-CENTURY MOTORS 1745RPM 60Hz, 3ϕ
PART# 6-322465-03 5 HP 14.4/7.2 Amp
FM# S184T TYPE: SC ~~40Amp~~ 230/460V

AHU#4 GOULD 5HP
PART# 6-322465-03

AHU#6 & 7
SAME

AHU#5 ~~[illegible]~~ INACESSABLE MOTOR
APPROX 5HP

NOTE: UNIT HAS A SEVERE LEAK PROBLEM ORIGINATING FROM CHW PNEUMATIC VALVE. HAS BEEN LEAKING FOR SOME TIME BECAUSE PIPE IS RUSTING BADLY ON OUTSIDE.

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/6/92

CHECKED BY DATE

SCALE

BLDG 213

BAY 4 CHILLER (SOUTH)

TSI (TECHNICAL SYSTEMS, INCORPORATED)

R-22 S#8775 M#CA2CM12

~~2~~ 460V 60Hz 3Ø

4 COMPRESSORS AT 67.5 RLA 283 LRA

44.3 214

67.5 283

44.3 214

12 FANS AT 1HP each

2.3 FLA

SOUTH END BOILER ROOM:

CONDENSATE TANK SHOULD BE INSULATED.

APPROX 5' DIA. x 10' LONG

RM 128 MECH ROOM:

HW PIPES NEED TO BE INSULATED. 2" PIPE

BAY 2, COMPUTER STORAGE ROOM HAS INADEQUATE LIGHTING. THE OCCUPIERS HAVE INSTALLED THEIR OWN FLOURESCENT LIGHTS & THE OLD INCANDESCENT LIGHTS ARE A SAFETY HAZZARD BECAUSE OLD ~~LIGHTING~~ WIRE.

BUILDING 214

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-9-92

BLDG.# 214
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S BATHROOM SOUTH	139°F
BREAK ROOM (Mid. of Bldg.)	130°F
VEGETABLE CLEANING RM	146°F

PROBLEMS:	

COMMENTS: BREAK ROOM IS FAR FROM HEATER BECAUSE HOT WATER TOOK TWO MINUTES TO REACH THE BREAK ROOM.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 214 G
ECO 5

MOTORS

MOTOR #	3	HP	1/6	PH	1	RPM	1725
MODEL #	M10293 183	VOLTS	115V	AMPS	2.4		
SERIAL #		PRESENT HR.		TO			
MFG	B G	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	DHW CIRC. PUMP.	COMMENTS	PRESSURE CONTROL.				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.# 214 G
ECO 5

10+ HP MOTORS
MEASURED

MOTOR# 1			PHASE A	PHASE B	PHASE C
DESCRIPTION	HWP	VOLTS	472	471	
MFG	US ELECTRIC MOTORS	AMPS	16	14.3	
MODEL #	B04?6/N09N19/R037F	KVAR	7.3		
SERIAL #		KVA	12.4		
FRAME	254JP	KW	10		
HP	15 RPM 1765	PF	80.7		
VOLT	230 / 460				
AMPS	39.2 / 19.6	PRESENT	0 TO 2400		
EFF.	89.5	REQ HR.	TO		
COMMENTS	HW PUMP.				

MOTOR# 2			PHASE A	PHASE B	PHASE C
DESCRIPTION	AHU	VOLTS	474	475	
MFG	CENTURY	AMPS	25.9	25.7	
MODEL #	6313482-02	KVAR	15.6		
SERIAL #		KVA	22.1		
FRAME	324T	KW	14.9		
HP	40 RPM 1765	PF	69.5		
VOLT	460				
AMPS	49	PRESENT	0 TO 2400		
EFF.	89.3	REQ HR.	TO		
COMMENTS	AHU HW / DX				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

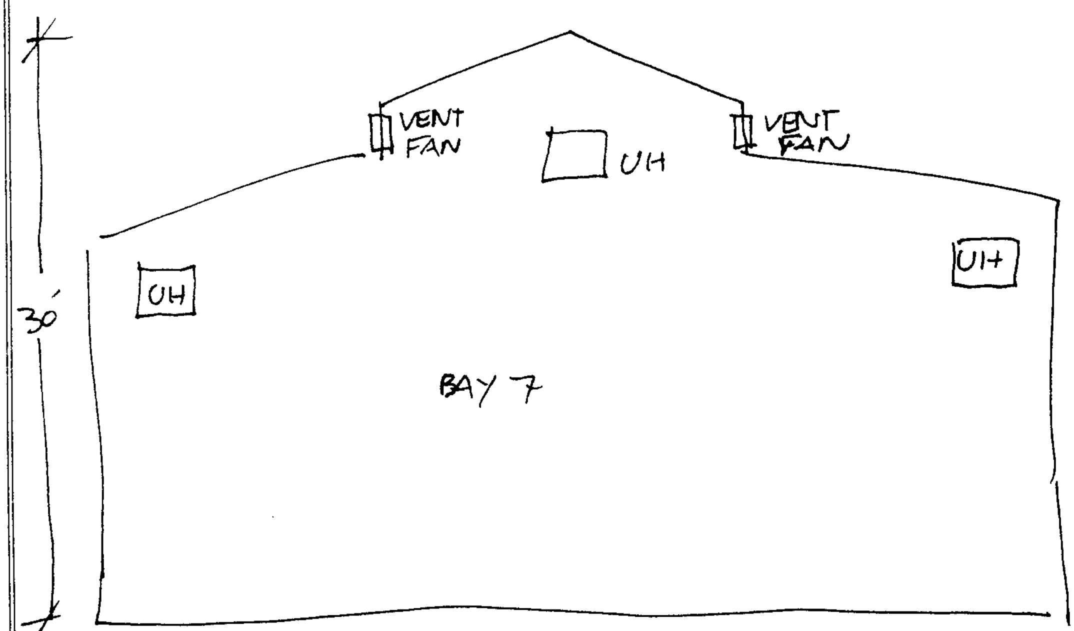
JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.# 2146
ECO 10

AIR STRATIFICATION

LOCATION	BAY 7	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UH
TEMP. AT CEILING	73.7°F	OPP. HOURS	0700 TO 2400
TEMP. AT FLOOR	70.3°F		

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

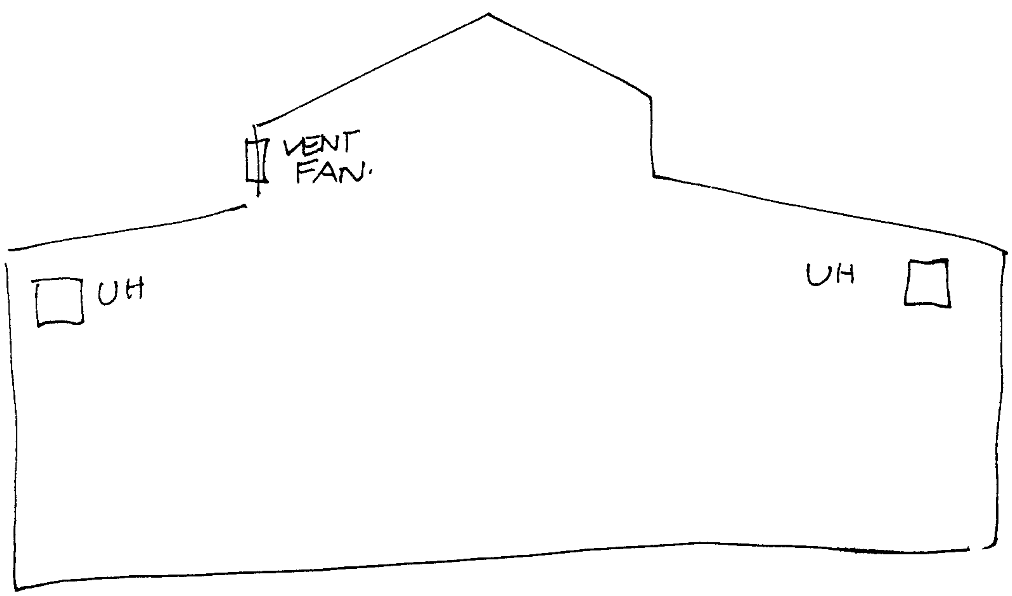
JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.#: 214 G
ECO 10

AIR STRATIFICATION

LOCATION	BAY 6	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UH
TEMP. AT CEILING	75° F	OPP. HOURS	0700 TO 2400
TEMP. AT FLOOR	72.3 F		

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

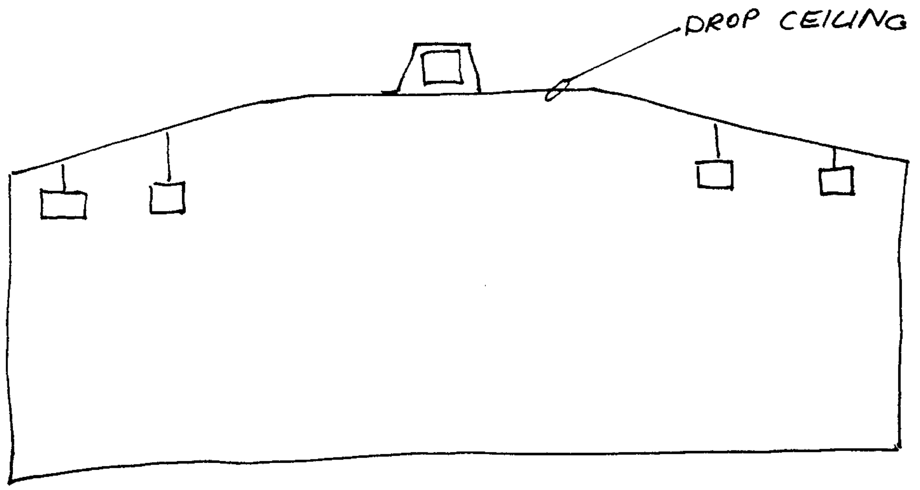
JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.# 2146
ECO 10

AIR STRATIFICATION

LOCATION	BAY 4	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UH (HW COIL)
TEMP. AT CEILING	70.7	OPP. HOURS	TO
TEMP. AT FLOOR	70.1		T'STAT CONTROL

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: UHs BLOW DOWN

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB ____

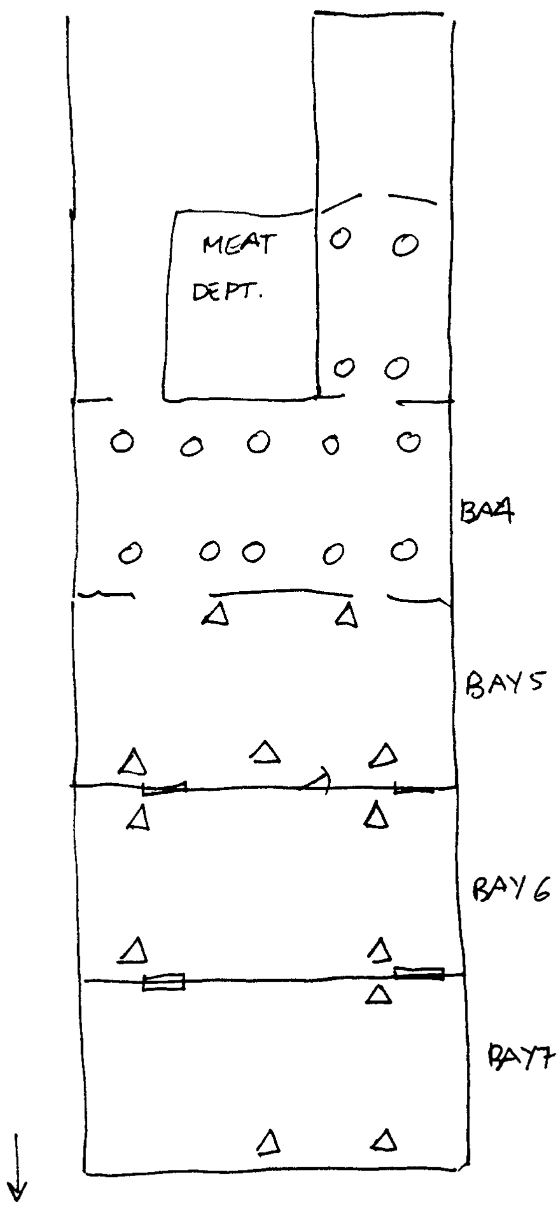
SHEET NO. ____ OF ____

CALCULATED BY KL DATE 1-9-92

CHECKED BY ____ DATE ____

SCALE ____

BLDG 2146.



O - UH. HW COIL

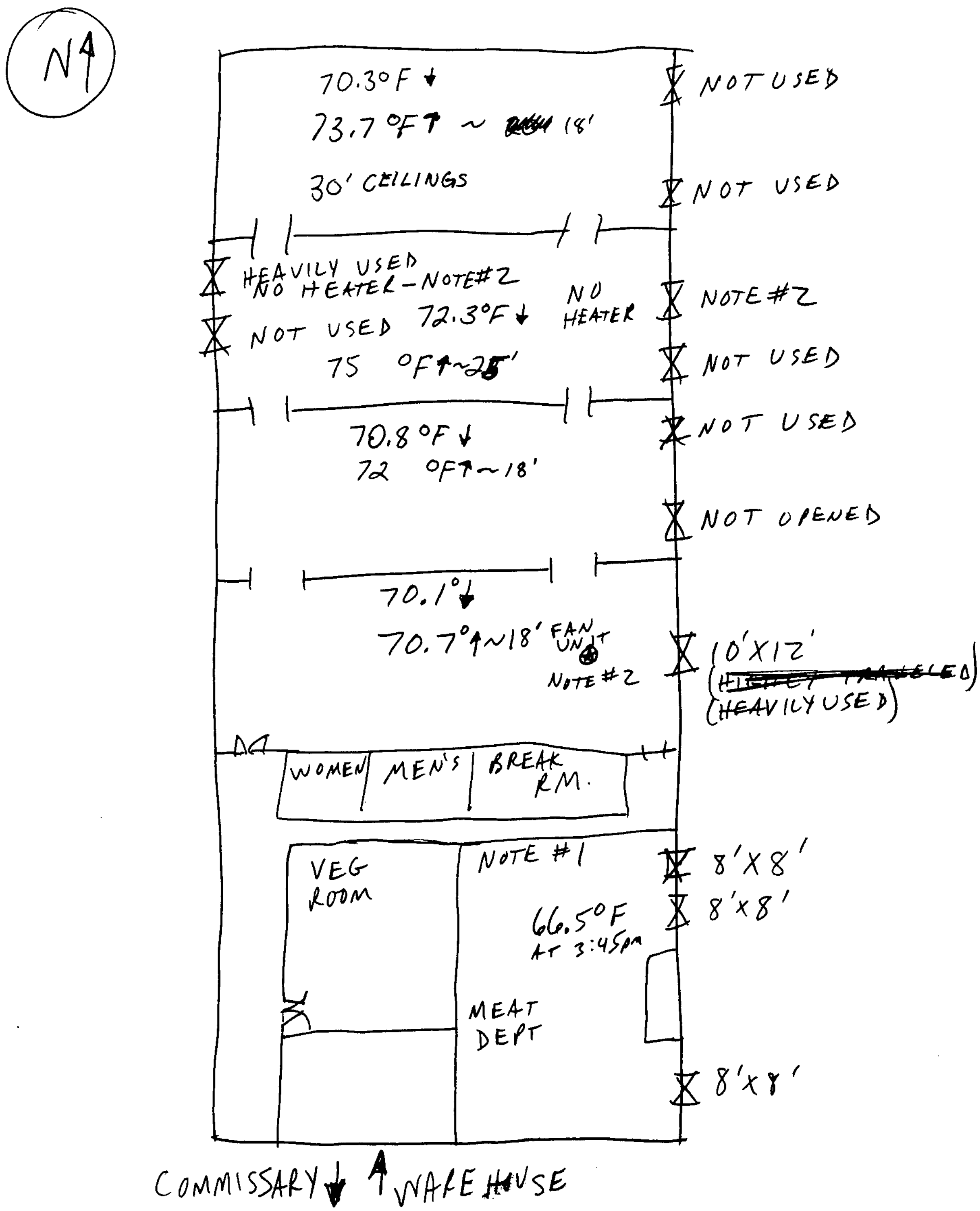
Δ - GAS FIRED UH.

TRANE
MOD. # GPNC022ADB10000
INPUT 225,000 BTU/H
OUTPUT 173,250 BTU/H
275 W
THERMAL EFF. 77%
FAN (1)
SHELLER-GLOBE CORP.
MOD. # H001A4456E 1140 RPM
115V AA 1Ø 1/4 HP

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

BLDG 214

JOB
SHEET NO. OF
CALCULATED BY JW DATE 1/9/92
CHECKED BY DATE
SCALE



JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/9/92

CHECKED BY DATE

SCALE

BLDG 214

NOTES

1) ALL MEAT DEPT. DOORS ARE OPEN FROM 7:00 - 12:00 ON THURS. & ~~FRIDAY~~ WEDNESDAY. GOOD PLACE FOR INFRARED HEATERS IN FRONT OF 3BAY DOORS.

2) NEEDS INFRARED HEATER

BUILDING 308

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 308
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S RM. NORTH	140°F
MEN'S RM. S.E.	131°F

PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-8-92

BLDG.# 308 G
ECO 5

MOTORS

MOTOR #	4	HP	1/12	PH	1	RPM	1725
MODEL #	MØ91812-87	VOLTS	115	AMPS	1.75		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	BG	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #	5	HP	2	PH	3	RPM	
MODEL #	40QRC1230	VOLTS	230	AMPS	6.2		
SERIAL #	C693171	PRESENT HR.		TO			
MFG	CARRIER	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU 2	COMMENTS	T'STAT				

MOTOR #	6	HP	3/4	PH	1	RPM	
MODEL #	40VU006300	VOLTS	230	AMPS	5.5		
SERIAL #	G483578	PRESENT HR.		TO			
MFG	CARRIER	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU 3 · NEXT TO AHU 2	COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO. ___ OF ___
CALCULATED BY: KC
CHECKED BY:
DATE: 1-8-92

BLDG.# 308 G
ECO 5 WAREHOUSE

MOTORS

MOTOR #	1	HP	1/3	PH	1	RPM	1140
MODEL #	5K442C	VOLTS	115	AMPS	8		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	DAYTON	REQUIRED HR.	7:00	TO	3:45		
FRAME		EFF.					
DESCRIPTION	FUEL OIL PUMP	COMMENTS					

MOTOR #	2	HP	3	PH	3	RPM	3450
MODEL #	1303172102	VOLTS	208	AMPS	8.2		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	FRANKLIN ELEC.	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	COND. PUMP (2)	COMMENTS					

MOTOR #	3	HP	3	PH	3	RPM	1750
MODEL #	6-342912-12	VOLTS	~~230~~ 200	AMPS	~~10.4~~ 9.6		
SERIAL #		PRESENT HR.		TO			
MFG	~~CARRIER~~ CENTURY	REQUIRED HR.		TO			
FRAME	S182T	EFF.					
DESCRIPTION	AHU DX	COMMENTS					

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

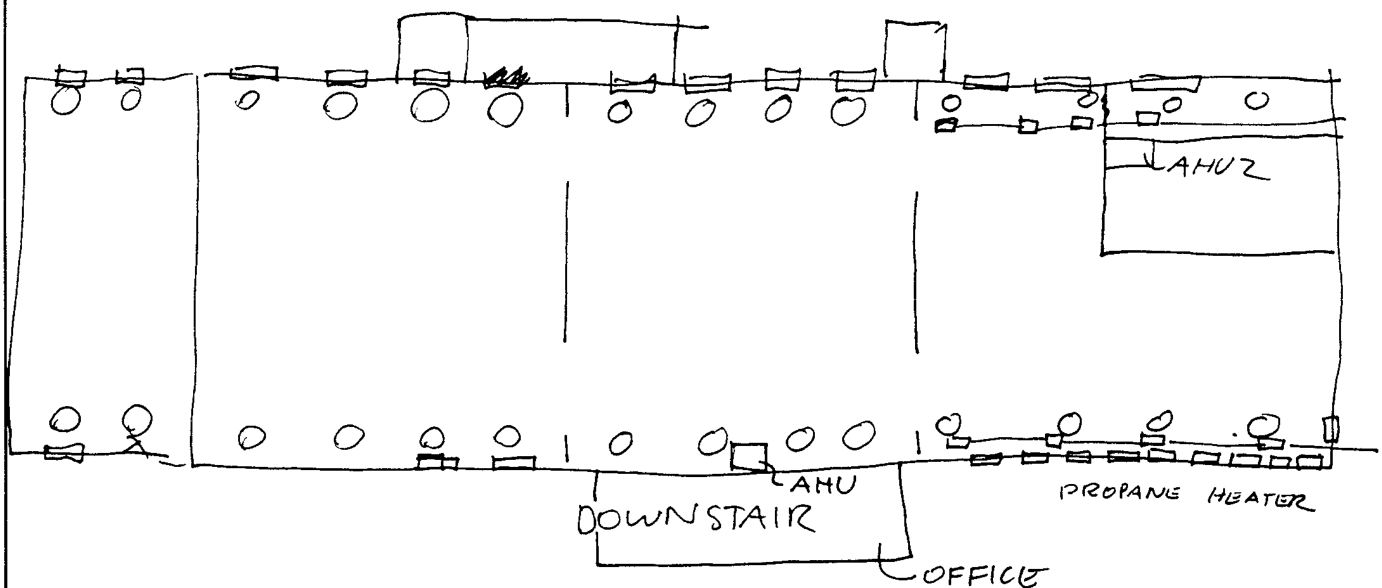
JOB

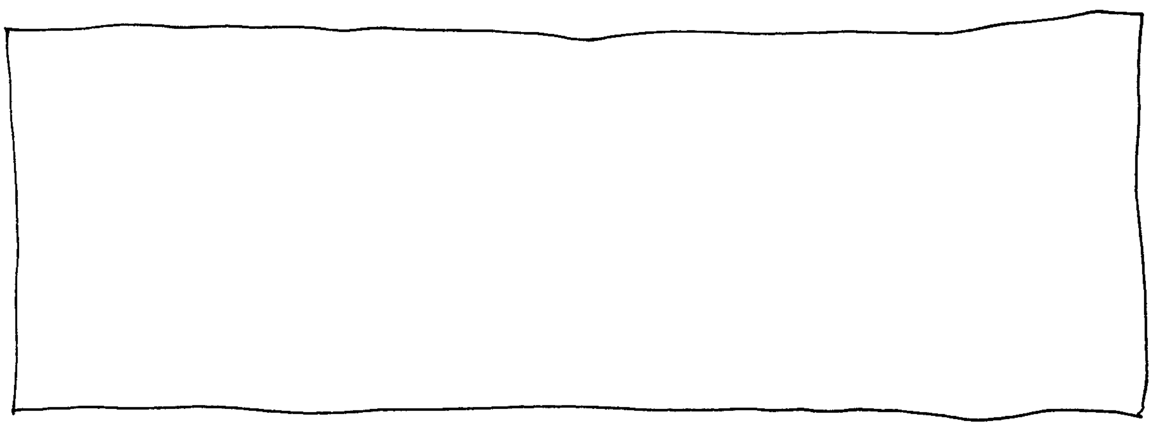
SHEET NO. OF

CALCULATED BY KC DATE 1-8-92

CHECKED BY DATE

SCALE





UPSTAIR.

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY KC DATE 1-8-92

CHECKED BY DATE

SCALE

BLDG 308 G

NEED INSULATE HW PIPE 2" ~ 20'

BUILDING 400

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 400
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
NORTH EAST MEN'S LOCKER RM. SHOWER	96°F
PAINT ROOM (~~NORTH~~ WEST) SINK	91.5°F
SOUTH WEST WALL SINK	103.5°F
SOUTH EAST WALL SINK	110°F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-8-92

BLDG.# 400G
ECO 5

MOTORS

MOTOR #	4	HP	1 1/2	PH	3	RPM	1620
MODEL #		VOLTS	208	AMPS	5.1		
SERIAL #	ZC-11888	PRESENT HR.		TO			
MFG	MASTER	REQUIRED HR.		TO			
FRAME	4710RC	EFF.					
DESCRIPTION	HANGER DOOR MOTORS (2) 1+2	COMMENTS	APPROXIMATE 20 TIMES/DAY				

MOTOR #	5	HP	1/4	PH	1	RPM	1725
MODEL #	5K5478	VOLTS	115	AMPS	4.9		
SERIAL #		PRESENT HR.		TO			
MFG	DAYTON	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	EXH. FAN 1 IN ELEC. SHOP	COMMENTS	ON/OFF SWITCH. (NEVER RUN)				

MOTOR #	6	HP	1/12	PH		RPM	
MODEL #		VOLTS	115	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG	TRANE	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	UNIT HEATER 3, 4	COMMENTS	T'STAT CONTROL - STM COIL				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-8-92

BLDG.# 400 (GILLEM)
ECO 5

MOTORS

MOTOR #	1	HP	5	PH	3
RPM	1750				
MODEL #	3K132AX20446X	VOLTS	200-230	AMPS	9-8.8
SERIAL #		PRESENT HR.		TO	
MFG	GE	REQUIRED HR.		TO	
FRAME	182T	EFF.	84		
DESCRIPTION	AHU #2 UPSTAIR IN DOL	COMMENTS	T'STAT CONTROL		

HEAT @ 70°F
COOL @ 80°F

MOTOR #	2	HP	1/12	PH	1
RPM					
MODEL #		VOLTS	115	AMPS	
SERIAL #		PRESENT HR.		TO	
MFG		REQUIRED HR.		TO	
FRAME		EFF.			
DESCRIPTION	UH #1 MEN ROOM	COMMENTS	STM COIL		

MOTOR #	3	HP	1/4	PH	
RPM					
MODEL #		VOLTS	115 V	AMPS	
SERIAL #		PRESENT HR.		TO	
MFG	BEACON MORRIS	REQUIRED HR.		TO	
FRAME		EFF.			
DESCRIPTION	UH #2 MEN ROOM	COMMENTS	STM COIL		

EMC ENGINEERS, INC.
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JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-8-92

BLDG.# 400 G
ECO 5

MOTORS

MOTOR #	7	HP	10	PH	3	RPM	1735
MODEL #	SC-324-JA3-3	VOLTS	220	AMPS	26		
SERIAL #	10AF39516	PRESENT HR.	0	TO	2400		
MFG	CENTURY	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	#1 AHU OVER BODYSHOP HEATING ONLY STM.	COMMENTS	VERY OLD SEE 10HP MOTOR FORM.				

MOTOR #	8	HP	2	PH	3	RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	EXH. FAN # 2	COMMENTS	CAN NOT GET UP THERE "OLD"				

MOTOR #	9	HP	7.5.	PH	3	RPM	3500
MODEL #	6-357330-40	VOLTS	200	AMPS	21		
SERIAL #		PRESENT HR.		TO			
MFG	CENTURY	REQUIRED HR.		TO			
FRAME	M184T	EFF.	85.5				
DESCRIPTION	COND. PUMP. (2) 1+2	COMMENTS	FLOAT SWITCHES. RUN FOR 2 MIN. EVERY 4 MIN.				

EMC ENGINEERS, INC.
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JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
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CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-8-92

BLDG.# 400 G
ECO 5

MOTORS

MOTOR #	10	HP	1/2	PH		RPM	
MODEL #		VOLTS	115V	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG	BELL & GOSSETT	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HW CIRC. PUMP	COMMENTS	NO NAMEPLATE				

MOTOR #	11	HP	3	PH	3	RPM	1150
MODEL #	1159381/A	VOLTS	220	AMPS	8.4		
SERIAL #		PRESENT HR.		TO			
MFG	WESTINGHOUSE	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	1+2 CIRC. FAN UPSTAIR (2)	COMMENTS	MANUAL S/S SW. NOT RUNNING.				

MOTOR #		HP	1/12	PH		RPM	
MODEL #		VOLTS	115V	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	3+4 CIRC. FAN DOWNSTAIR (2)	COMMENTS	NO NAME PLATE				

EMC ENGINEERS, INC.
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JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: OF
CALCULATED BY: KL
CHECKED BY:
DATE: 1-8-92

BLDG.# 400 G
ECO 5

10+ HP MOTORS

MEASURED

			PHASE A	PHASE B	PHASE C
MOTOR#	7				
DESCRIPTION	AHU UPSTAIR	VOLTS	206	203	
MFG	CENTURY	AMPS	21	20.6	
MODEL #	SC-324-JA3-3	KVAR	.1		
SERIAL #	10AF39516	KVA	4.3		
FRAME		KW	4.2		
HP	10 RPM 1735	PF	100 %		
VOLT	220				
AMPS	26	PRESENT	0 TO 2400		
EFF.		REQ HR.	700 TO 1600		
COMMENTS					

			PHASE A	PHASE B	PHASE C
MOTOR#					
DESCRIPTION		VOLTS			
MFG		AMPS			
MODEL #		KVAR			
SERIAL #		KVA			
FRAME		KW			
HP	RPM	PF			
VOLT					
AMPS		PRESENT	TO		
EFF.		REQ HR.	TO		
COMMENTS					

EMC ENGINEERS, INC.
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JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY:
CHECKED BY:
DATE:

BLDG.# 400 G
ECO 10

AIR STRATIFICATION

LOCATION ABOUT MIDDLE OF BLDG

REQ. TEMP.

TEMP. AT TSTAT

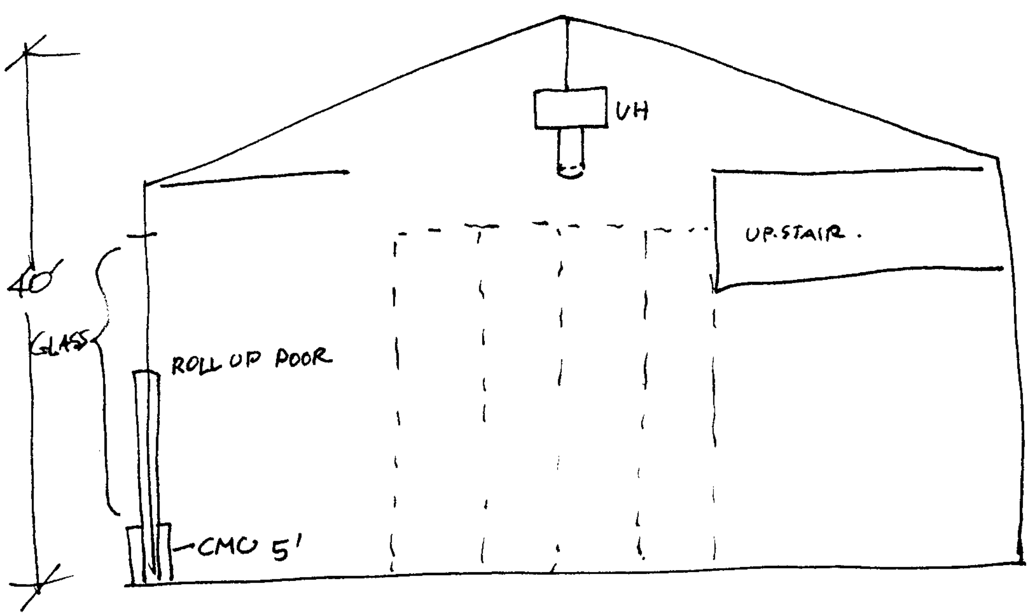
SOURCE UH

TEMP. AT CEILING 74.1 °F

OPP. HOURS TO

TEMP. AT FLOOR 68 °F

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: NO MAJOR HEAT PROBLEM. 2 BIG SLIDING DOORS @ BOTH END OF BLDG. ROLL UP DOOR ON SID OF BLDG

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	CS
CHECKED BY:	
DATE:	1-8-92

BLDG.# 400
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	51	2	34	F	ON	Y	N	6	N
2	6	2	34	F	ON	Y	Y	Circuit Breaker	Y
3	6	2	34	F	ON	Y	Y	"	Y
4	3	4	34	F	OFF	Y	Y	1	N
5	1	2	34	F	ON	Y	N	1	Y
6	1	2	34	F	ON	Y	N	1	Y
7	2	1	34	F	OFF	Y	N	1	N
8	2	2	34	F	ON	Y	N	2	Y
(27 burned out tubes) 9	24	2 5'	Bigger tubes 90	F	ON		N	3	N
10	15	2 8'		F	ON	Y	N	2	N
11	2	2 8'		F	ON	Y	Y	1	Y
12	4	2 8'		F	ON	Y	N	1	Y
~~13~~	~~36~~ ~~4~~	~~2 8'~~		~~F~~	~~On~~	~~Y~~	~~N~~	~~1~~	~~Y~~
14	36	1	250 High pressure	Sod.	ON	Y	N	5	N
15	16	~~0~~ 2	~~40~~ 40	F	ON	Y	N	3	Y
16	11	2 5'	90	F	ON	Y	N	3	Y
17	25	1	150	I	ON	Y	N	2	N
18	6	2	34	F	ON	Y	N	1	N

\# OF EXIT SIGNS – 11

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-8-91

BLDG.# 400
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
12	7	1	200	I	ON	Y	N	1	Y
13	31	1	200	I	ON	Y	N	1	Y
	2	1	200	I	OFF	Y	N	1	N
	2	1	200	I	OFF	Y	N	1	N
[illegible]									

OF EXIT SIGNS – ______

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-8-92

BLDG.# 400
EC0 15

LIGHTING

	ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
	19	6	2 8'		F	ON	Y	N	1	N
	17	18	2 8'		F	ON	Y	N	2	N
		4	2 5'	90	F	ON	Y	N	2	N
	20	1	2 8'		F	ON	Y	Y	1/2	Y
		1	2	34	F	ON	Y	N	1/2	Y
	21	2	4	34	F	ON	Y	Y	1	N
	22	2	2	34	F	OFF	Y	N	1	N
	23	2	2	34	F	ON	Y	N	1	Y
	24	4	2	34	F	OFF	Y	Y	1	N
	25	1	2 5'	90	F	OFF	Y	N	1	N
		1	2	34	F	OFF	Y	N	1	N
	26	20	2	~~34~~ 40	F	ON	Y	N	3	Y
	27	64	2	40	F	ON	Y	N	8	N
16/4	28	15	2	34	F	OFF	Y	N	2	N
31	29	65	2	34	F	OFF	Y	N	9	N
		51	1	200	I	OFF	Y	N		N
27/10	30	34	2	~~30~~ 40	F	ON	Y	N	2	Y
	12	2	1	200	I	OFF	Y	N	1	N

OF EXIT SIGNS –

COMMENTS:

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 400 G

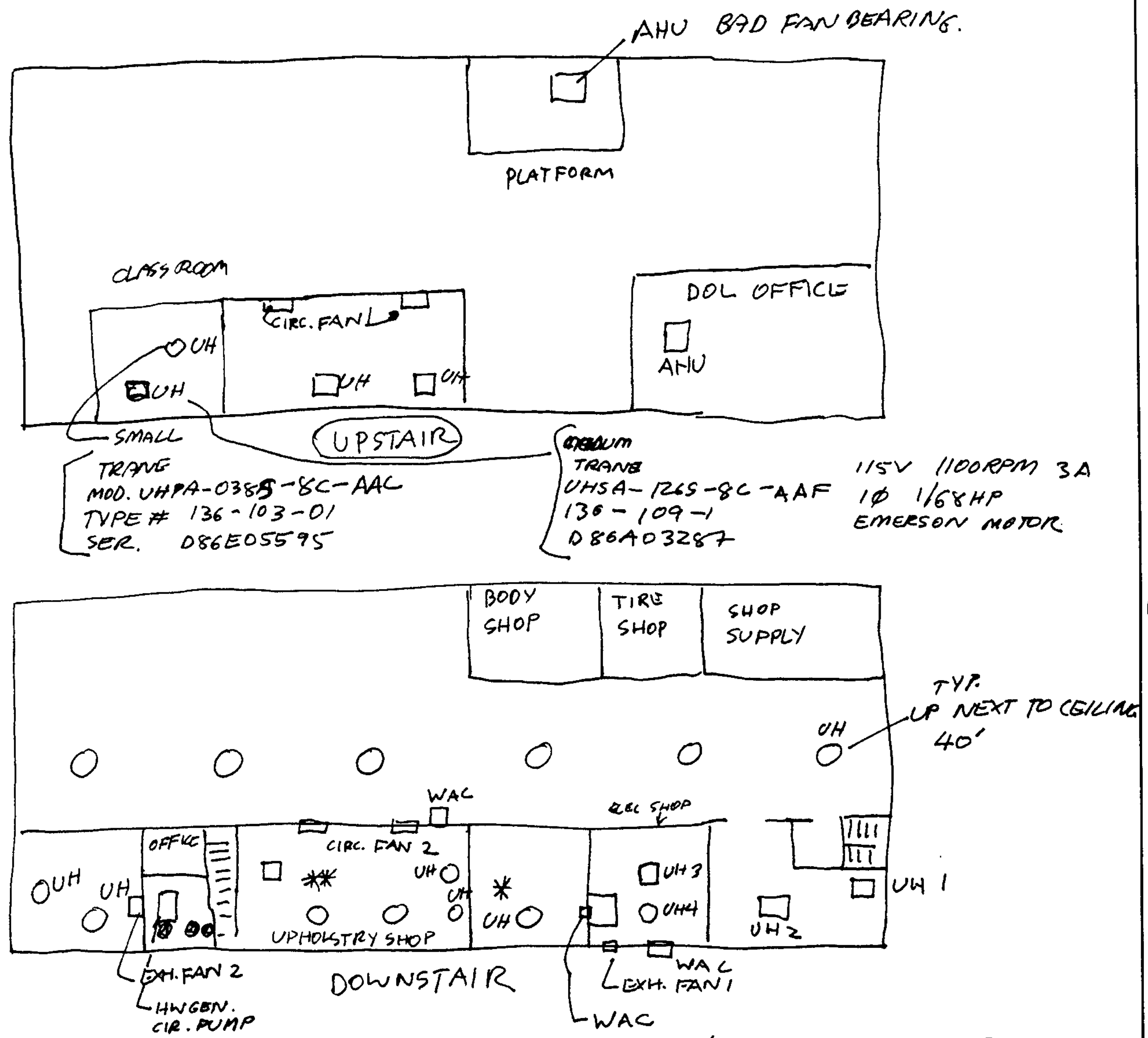
JOB

SHEET NO. OF

CALCULATED BY KC DATE 1-8-92

CHECKED BY DATE

SCALE



* BULBS BURN OUT NO REPLACEMENT OLD FIXTURE, 4' FLOR. BIGGER DIA. THAN ORDINARY. ≈50% OUT.

** UPHOLSTRY SHOP COLD DRAFT UH NOT ABLE TO KEEP UP

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 400

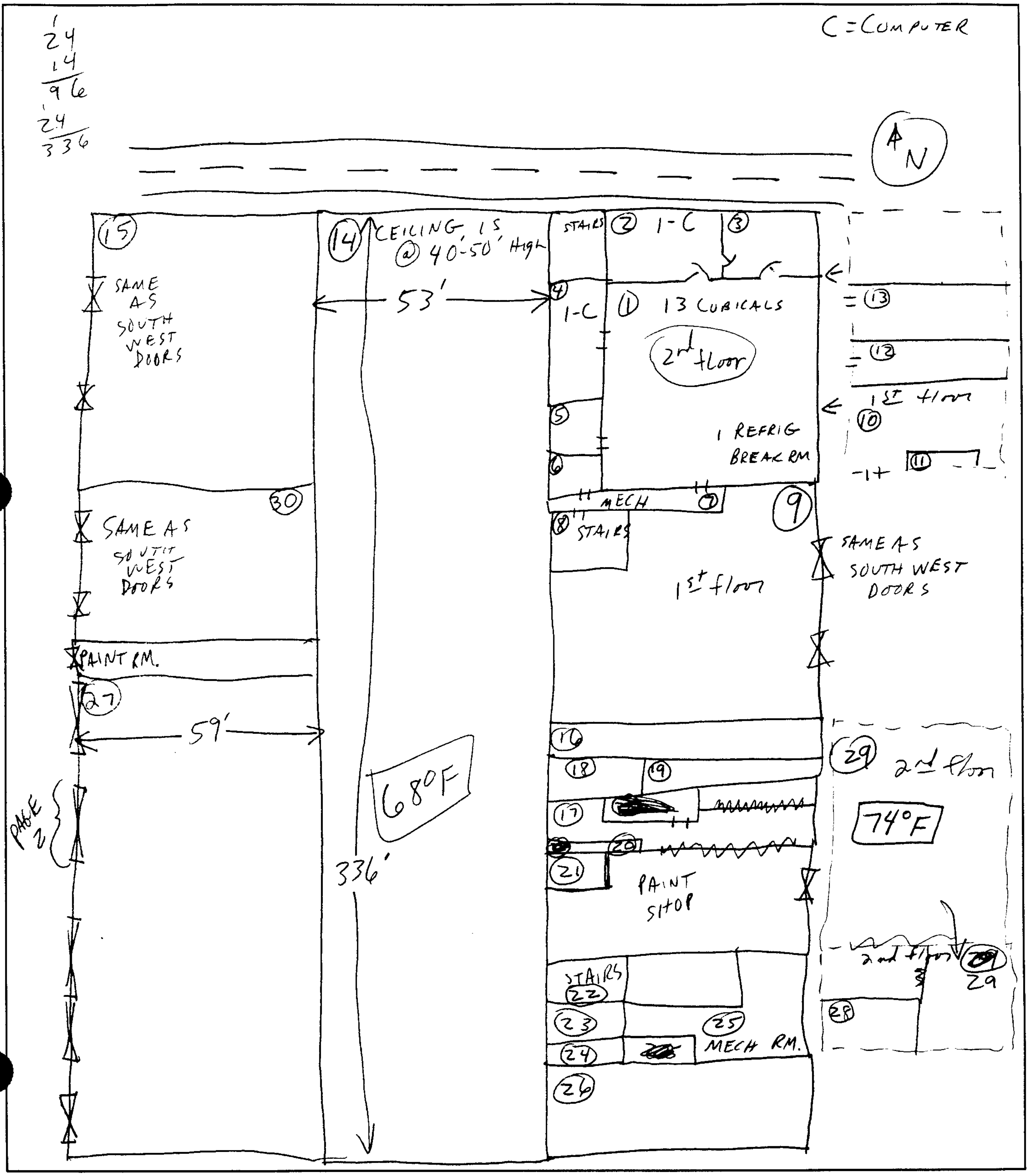
JOB

SHEET NO. OF

CALCULATED BY JW DATE 1/7/92

CHECKED BY DATE

SCALE

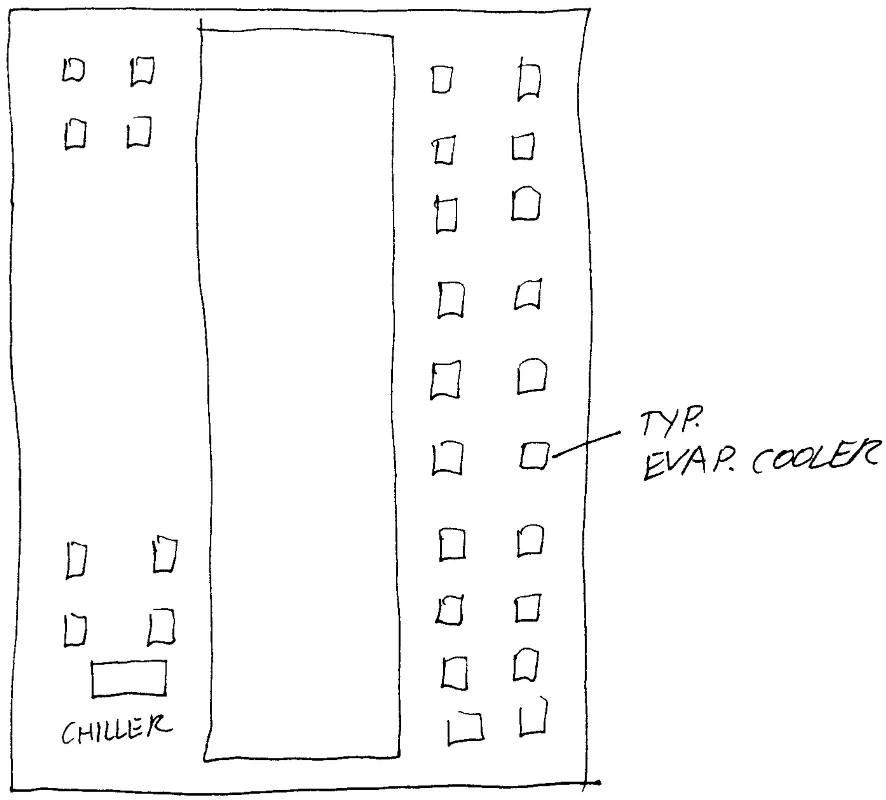


E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

BLDG. 400G

JOB ______
SHEET NO. ______ OF ______
CALCULATED BY KC DATE 1-8-92
CHECKED BY ______ DATE ______
SCALE ______

TOPVIEW



EVAP. COOLER
PHOENIX MANUFACTURE INC.
P.O. BOX 20663
PHOENIX, AZ 85036

MOD. # DM4400 1/4 HP 115V 6.9A 60HZ
DM4800 1/4 HP 115V 8.8A 60HZ

CHILLER (DX)
TRANE
MOD# BTA1500500MA
SER# S28198720
COMP. (2) 27 A 200V 3Ø
COND. (4) 3.8 A 200V 1Ø

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 400

JOB

SHEET NO. OF

CALCULATED BY JW DATE 1/8/92

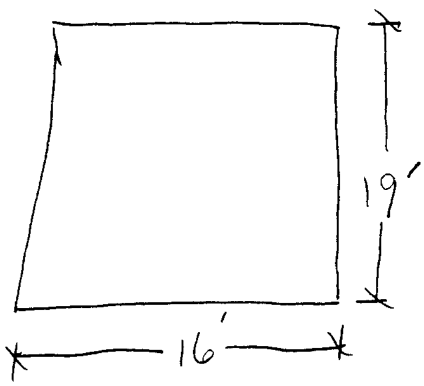
CHECKED BY DATE

SCALE

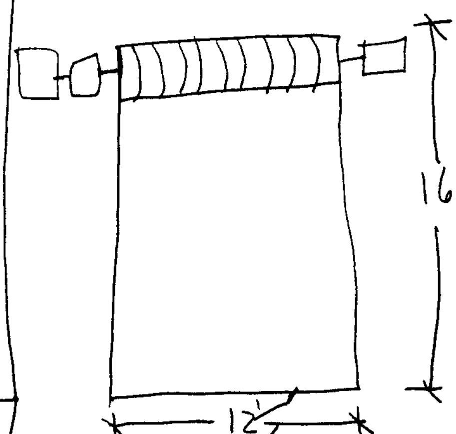
PAGE 2

WESTWALL

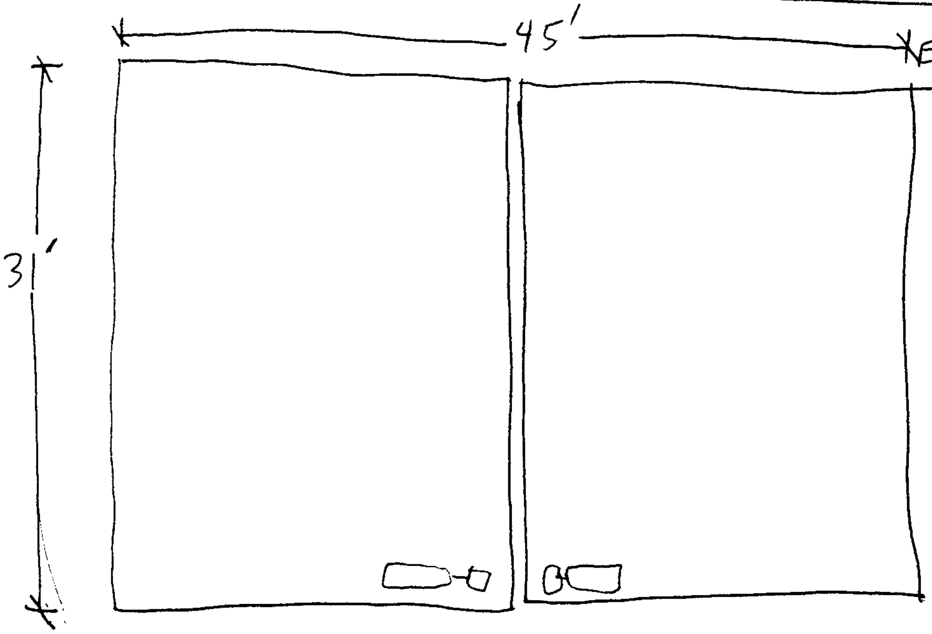
BAY DOORS ⇒ TYP. OF ___



SOUTH ~~EAST~~ BAY DOOR (1)



END DOORS TYP. OF 2



JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/7/92

CHECKED BY DATE

SCALE

BLDG 400

ECO - 14

HEATING SUPPLY SOURCE:

E M C ENGINEERS, INC.	JOB
Denver • Colorado Springs • Atlanta • West Germany	SHEET NO. OF
	CALCULATED BY JW DATE 1/8/92
BLDG 400	CHECKED BY DATE
	SCALE

BAY DOOR IN FURNITURE SHOP ⇒ 12' X 16'
THIS DOOR IS BROKEN & MUST BE PROPPED OPEN IN SUMMER FOR VENILATION. NEEDS TO BE REPLACED.

BUILDING 401

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-8-92

BLDG.# 401
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
Bathroom in office downstairs	No hot water 76°F
Showers upstairs	108°F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: KC
CHECKED BY: ______
DATE: 1-8-92

BLDG.# 401G
ECO 5

MOTORS

MOTOR #	1	HP	1/2	PH	3	RPM	1740
MODEL #	6N 145TTDR 7342AA	VOLTS	208	AMPS	55		
SERIAL #		PRESENT HR.	7:00	TO	1530		
MFG	MARATHON	REQUIRED HR.		TO			
FRAME	145TCV	EFF.					
DESCRIPTION	COND. PUMP (2)	COMMENTS	FLOAT SWITCH				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

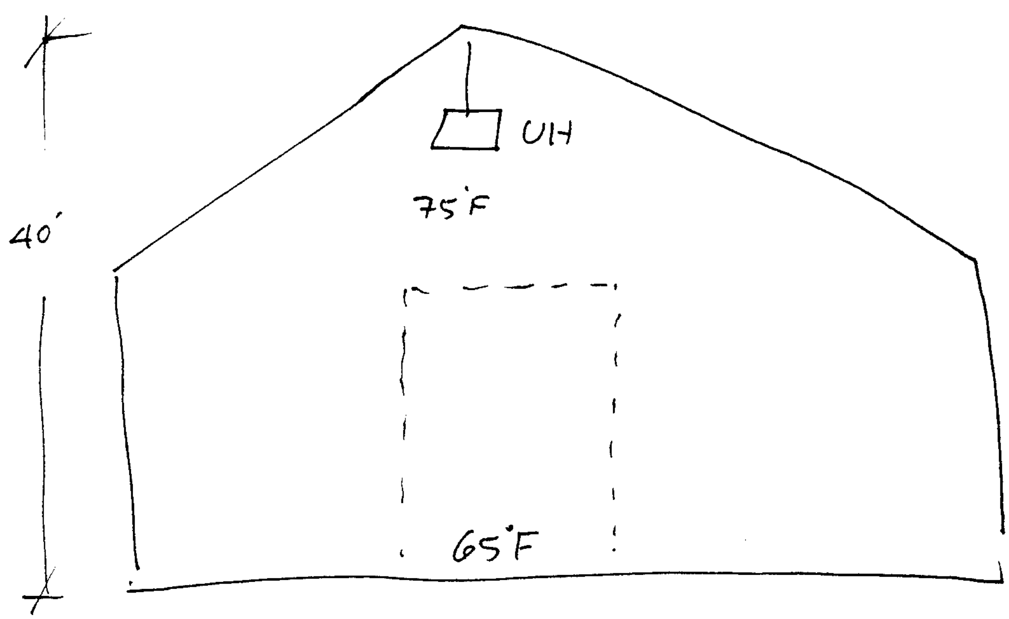
JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-8-92

BLDG.# 401
ECO 10

AIR STRATIFICATION

LOCATION	SHOP	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UH
TEMP. AT CEILING	75 'F	OPP. HOURS	7:00 TO 1530
TEMP. AT FLOOR	65 ' F		

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: THE OVERHEAD DOOR IS OPEN DURING SURVEY

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: CS
CHECKED BY:
DATE: 1-8-92

BLDG.# 401
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	11	2	34	F	ON	Y	N	3	N
	1	2 8'		F	ON	Y	N		N
2	2	1	100	I	OFF	Y	N	2	N
3	1	1	100	I	OFF	Y	N	1	N
4	26	1	Low press. sod.		ON	Y	N	8	N
	24	1	200	I	ON	Y	N	9	N
5	8	2	34	F	ON	Y	N	1	Y
6	3	1	75	I	ON	Y	N	2	Y
7	4	1	75	I	ON	Y	N	1	N
8	2	1	100	I	ON	Y	N	1	Y
9	6	1	100	I	ON	Y	N	1	N
10	4	1	100	I	OFF	Y	N	1	N
11	4	1	75	I	OFF	Y	N	1	N
12	6	2	34	F	ON	Y	N	1	Y
13	14	2 8'		F	ON	Y	N	3	N
14	38	2	34	F	1/3 ON	Y	N	4	N
	12	1	100	I	OFF	[illegible]	Do not use		N
15	38	2	34	F	OFF	Y	N	4	N

OF EXIT SIGNS – ________

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-8-92

BLDG.# 401
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
	12	1	100	I	OFF	Do	not use	Old Paint Room	
16	20	2 8'		F	ON	Y	N	4	N

OF EXIT SIGNS – ______

COMMENTS: ______

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

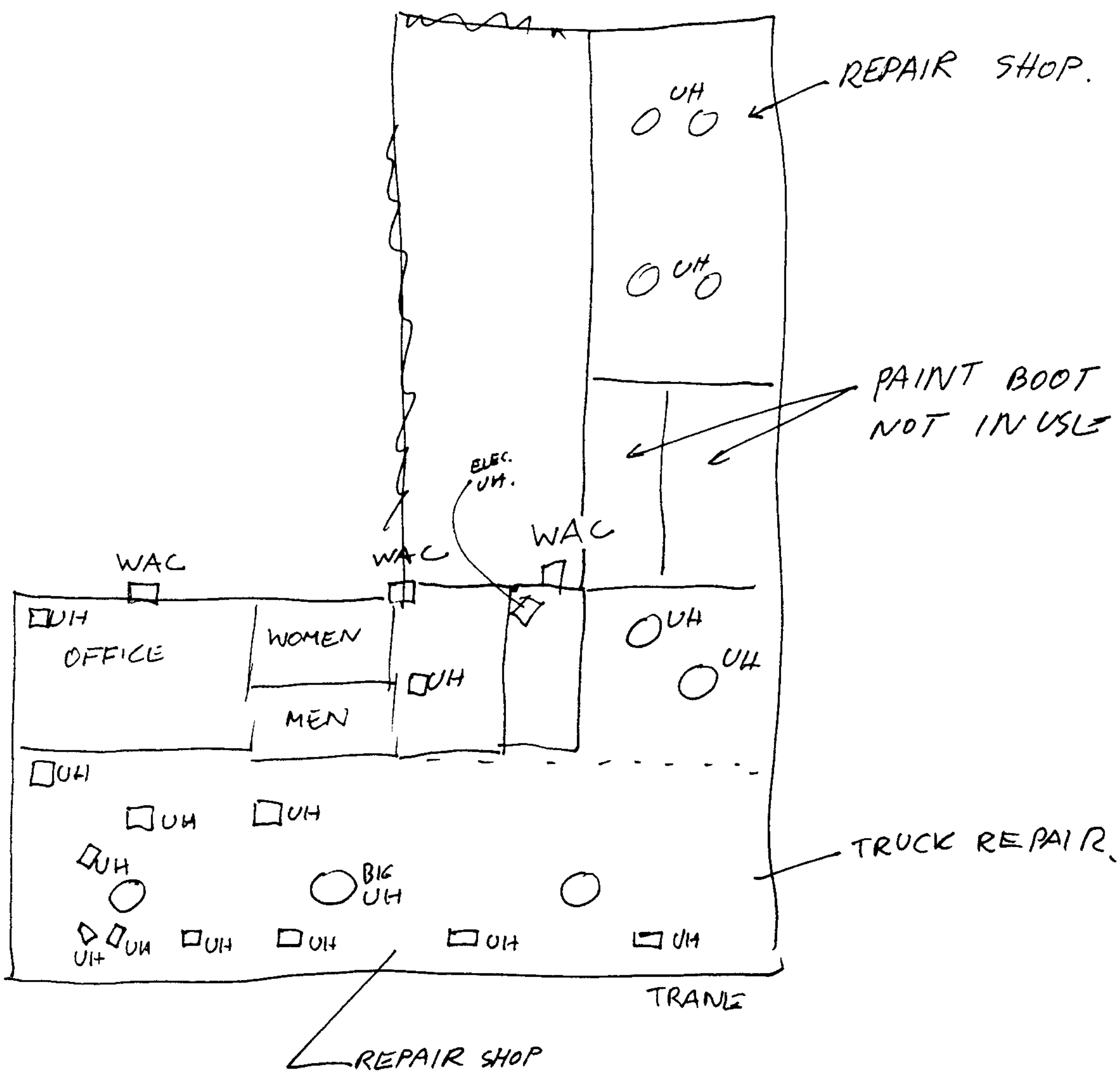
SHEET NO. OF

CALCULATED BY KC DATE 1-8-92

CHECKED BY DATE

SCALE

BLDG 401G.



JOB

SHEET NO. OF

E M C ENGINEERS, INC.

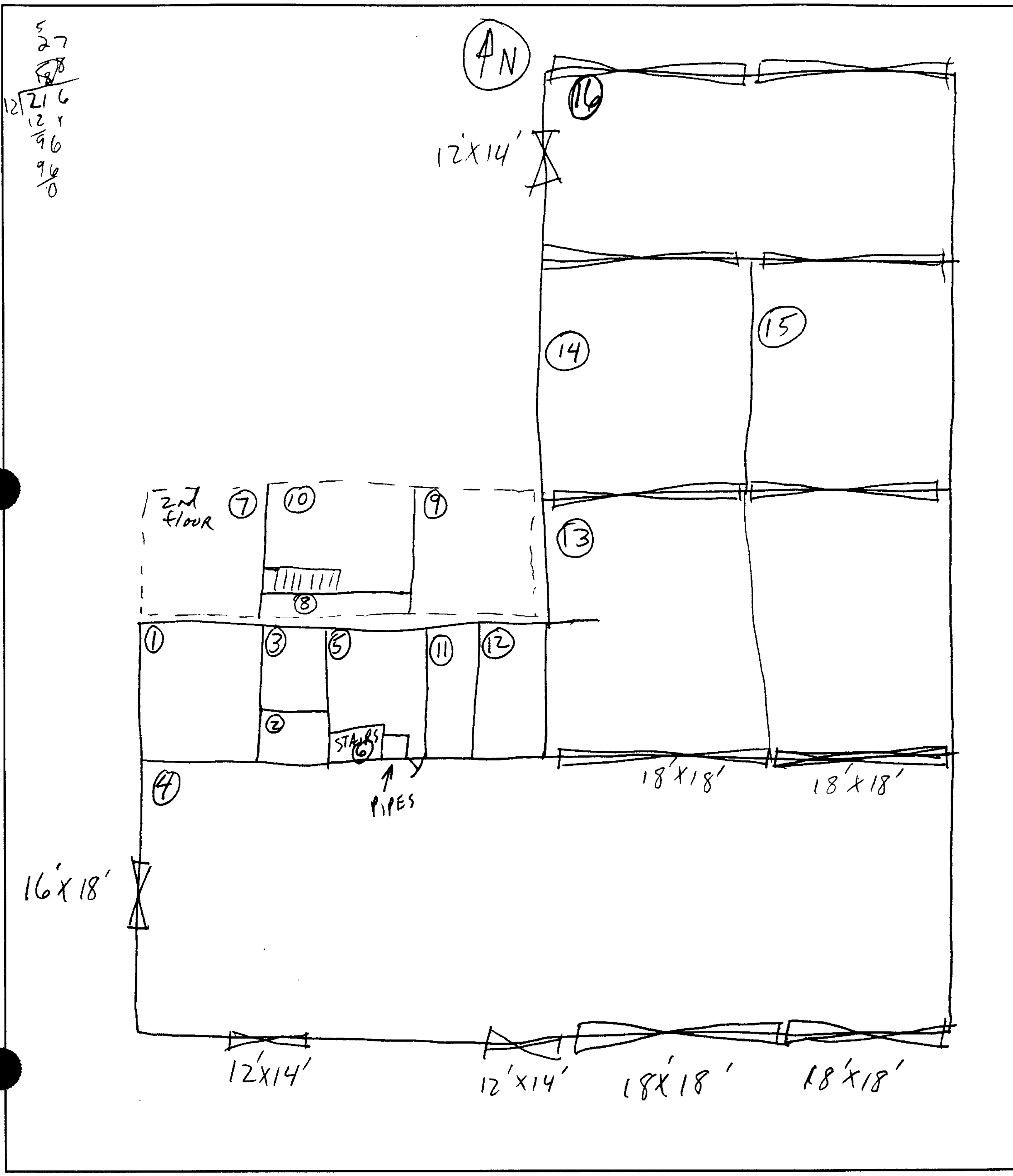
Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/7/92

CHECKED BY DATE

SCALE

BLDG 401



JOB

SHEET NO. OF

E M C ENGINEERS, INC.

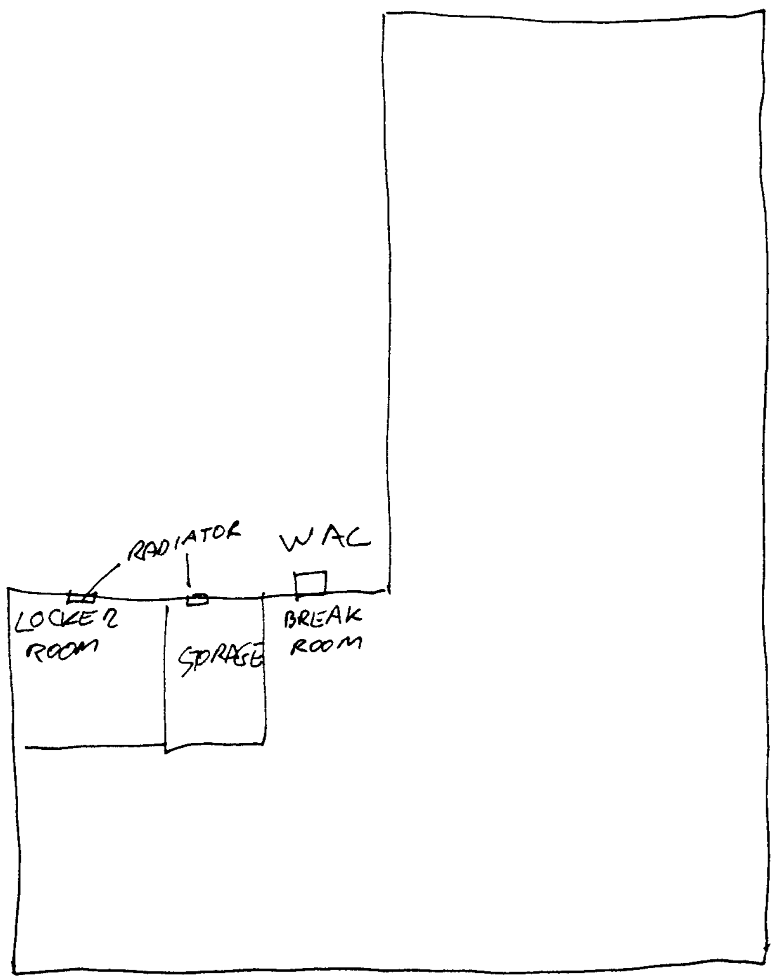
Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY LC DATE 1-8-92

CHECKED BY DATE

SCALE

BLDG 401 G.



UPSTAIR

BUILDING 403

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/7/92

BLDG.# 403-G
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
SOUTHWEST MEN'S ROOM	120 °F
NORTHWEST MESS HALL	136 °F
* NORTH BATHROOM	156 °F
PROBLEMS:	

COMMENTS: OPERATING HRS. 7:30 - 4:30pm
THIS BUILDING IS A MESS HALL STORAGE ~~FACILITY~~ FACILITY
* OLD WATER HEATER (ELECTRIC) IS SET TOO HIGH.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-7-92

BLDG.# 403
ECO 5

MOTORS

MOTOR #	1	HP	1/2	PH	1Ø	RPM	1725
MODEL #	A4C17DK14A	VOLTS	115	AMPS	8.8		
SERIAL #		PRESENT HR.		TO			
MFG	LESSON	REQUIRED HR.		TO			
FRAME	LS 56C	EFF.	62				
DESCRIPTION	COND. PUMP 1 & 2	COMMENTS	FLOAT SW.				

MOTOR #	2	HP	3/4	PH	1	RPM	
MODEL #	11A5077	VOLTS	220	AMPS	5.9		
SERIAL #		PRESENT HR.		TO			
MFG	AMERICAN STANDARD	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	AHU	COMMENTS	OLD ASBESTOS IN SUPPLY DUCT				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

E M C ENGINEERS, INC.

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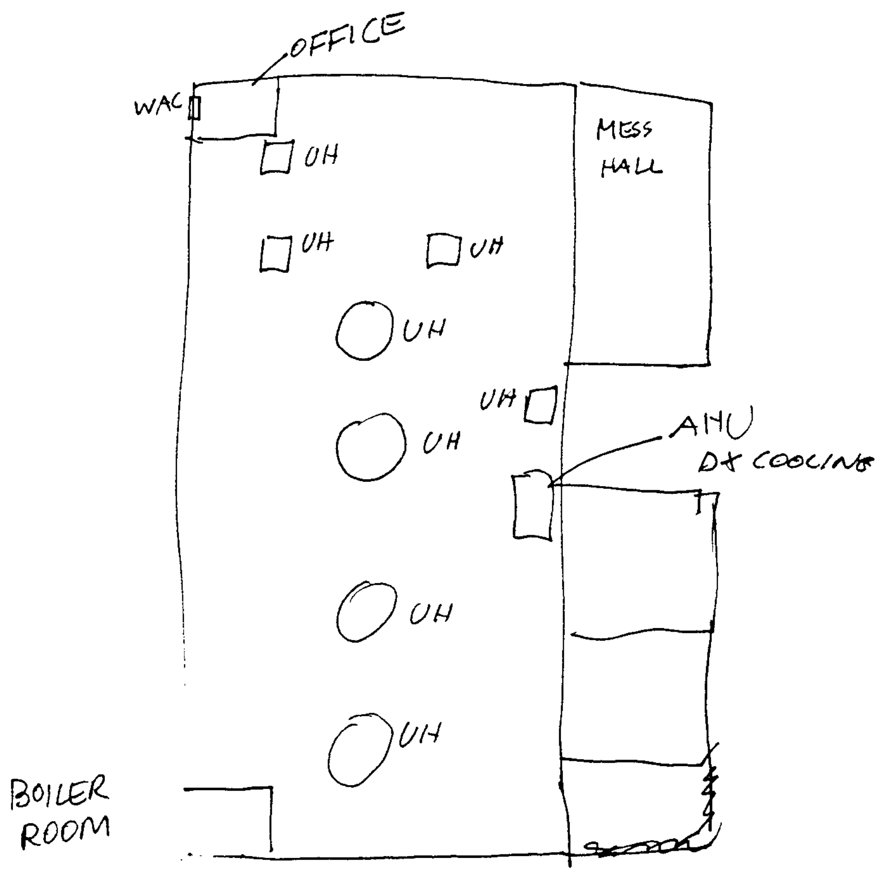
BLDG 403
Ft. Gillem.

JOB
SHEET NO. OF
CALCULATED BY KC DATE 1-7-92
CHECKED BY DATE
SCALE



* ONLY ○ UH IS WORKING, □ UH NOT WORKING.
CANNOT GET UH NAMEPLATE NOT ACCESSABLE.

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 403 G.

JOB

SHEET NO. OF

CALCULATED BY KC DATE 1-7-92

CHECKED BY DATE

SCALE

BLDG 403 FL. GILLEM

BOILER BRYAN FLEXIBLETUBE BOILERS

MOD CLZ70-S-15-FDGO YR 1990

SER 68537 BRYAN NO. 891442

INPUT 2700 MBH (MAX) 1350 MBH MIN

OUTPUT 2160 MBH.

15 PSI STM

BUILDING 505

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1-8-92

BLDG.# 505
ECO 5

MOTORS

MOTOR #	1	HP	1/3	PH	3	RPM	3450
MODEL #	1303002110	VOLTS	208	AMPS	1.5		
SERIAL #		PRESENT HR.		TO			
MFG	FRANKLIN ELEC.	REQUIRED HR.		TO			
FRAME	56 J	EFF.					
DESCRIPTION	COND. PUMP (2)	COMMENTS	FLOAT SW.				

BLDG 935G

MOTOR #	2, 3	HP	0.75	PH	1	RPM	
MODEL #		VOLTS	240	AMPS	6.8		
SERIAL #		PRESENT HR.	0000	TO	2400		
MFG	COMFORT MAKER	REQUIRED HR.	0700	TO	1900		
FRAME		EFF.					
DESCRIPTION	AHU FOR RACKET BALL DX COOLING. (2 COURTS)	COMMENTS	ELEC. HEATER 208V 3Ø 34A				

MOTOR #	~~3~~ 4	HP	3/4	PH	3	RPM	1750
MODEL #	NO MOD.# HYDRO FLOW ELECTRIC MTR.	VOLTS	208	AMPS	2.5		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	BELL & GOSSETT	REQUIRED HR.	0700	TO	1900		
FRAME	203	EFF.					
DESCRIPTION	HW PUMP NEAR BIG BOILER	COMMENTS					

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY JW DATE 1/8/92

CHECKED BY DATE

SCALE

BLDG 505

BOILER #2 SOUTH

MOHAWK

M# 4-5-5081-GP S# 9510

508 ft² 5/16" shell thick

MAX STEAM WP 15 PSI

STEAM CAP = 3450 lb/hr.

CTRL. CKT = 1φ 5A 120V

BURNER MOTOR = 3φ 7.4A 3HP 240V

JOB 3105.000

SHEET NO. ______ OF ______

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY KC DATE 1-8-92

CHECKED BY ______ DATE ______

SCALE ______

BLDG. 505 G.

BOILER 1 SMOHAWK BOILER BURNER UNIT

MOD. 1-5-508

NAT'L BOARD NO. 9607

HEAT SURFACE 508 SQFt. YR 1983

STM CAP. 3450 LBS HRS.

BOILER - MODEL 1-5-508-GP SN 9607

	Nat Gas	No. 2 Fuel Oil
MAX FIRING RATE	4200 CU FT/HR	30 GAL/HR
MIN " "	~~2~~1400 CU FT/HR.	10 GAL/HR
	NAT GAS	NO. 2 FEUL OIL.

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY RMB DATE

CHECKED BY DATE

SCALE

Ft Gill

List of Boilers Shut off 8 hrs

505
511
512
213
114
101
304
308
403

Left on

935 - Gym
205 - liquor store
103 ~~203/4~~ - Fire dept
735 chapel (theater)

BUILDING 506

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • Germany

JOB

SHEET NO OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

See Bldg.

512

BUILDING 507

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • Germany

JOB ______

SHEET NO ______ OF ______

CALCULATED BY ______ DATE ______

CHECKED BY ______ DATE ______

SCALE ______

See Bldg. 512

BUILDING 508

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • Germany

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

See Bldg.

512

BUILDING 509

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • Germany

JOB

SHEET NO OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

See Bldg.

512

BUILDING 510

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • Germany

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

See Bldg.

512

BUILDING 511

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • Germany

CALCULATED BY DATE

CHECKED BY DATE

SCALE

See Bldg.

512

BUILDING 514

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • Germany

JOB

SHEET NO. OF

CALCULATED BY DATE

CHECKED BY DATE

SCALE

See Bldg.

512

BUILDING 512

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

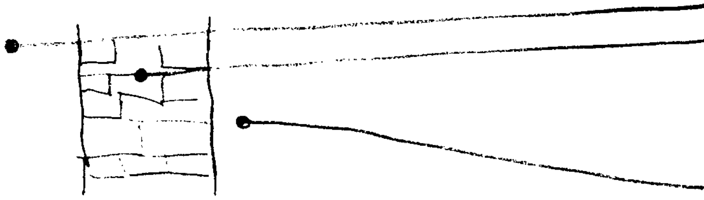
JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CEL
CHECKED BY:
DATE: 1/9/92

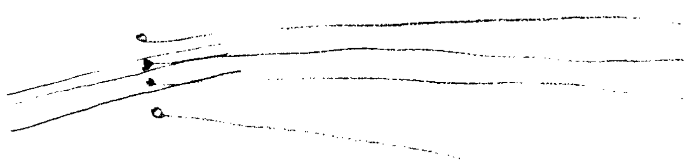
BLDG.# 512-G
ECO 1

WALL & ROOF INSULATION

AREAS IN SQ. FEET	NORTH	SOUTH	EAST	WEST
WALLS see plan for	600	180		
WINDOWS 505	52" x 18" (15+30 22)	(20+24 40) 52 x 3"	~~42~~+ 5+20+20 30+20+12+12 2+2+15+20	70 - 52 x 8 100 - 100 70
OVERHEAD DOORS	6 - 10'x10'	1 - 9'x10'	7 - 9'x9'	2 - 10 x 9'
PERSONNEL DOORS	1 - 42x96 1 - 72x36	Ø	6 - 72 x 36"	2 - 48"x96"

52" x 3"

SKETCH WALL CROSS-SECTION	COMPONENTS
	1. OUTSIDE AIR FILM 2. 12" BRICK 3. 4. 5. 6. 7. INSIDE AIR FILM

SKETCH ROOF CROSS-SECTION	COMPONENTS
	1. OUTSIDE AIR FILM 2. 2 PLY ROOF 3. ROOF DECK 4. 5. 6. 7. INSIDE AIR FILM

PERSONNEL DOOR TYPE 1/2 METAL 1/2 GLASS
OVERHEAD DOOR TYPE METAL ROLL UP

BASEMENT [ ]
SLAB [✓]
CRAWL SPACE [ ]

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

BLDG.# 612 G
ECO 1

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ___ OF ___
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

PIPE INSULATION

LOCATION	PIPE DIAMETER	PIPE LENGTH	FLUID TYPE	FLUID TEMP.	AIR TEMP.	INSULATION TYPE	INSULATION THICKNESS	INSULATION CONDITION
AHU NORTH	1 1/2"	20'	HW		63°F	FIBER G.	1"	*
AHU SOUTH	1 1/2	50'	STM		63°F	NONE	NONE	
SOUTH BAYS	6'	15'	STM		63°F	FIB.G. W/PAPER	1"	NEED REPAIR
BAY 4	VARIOUS		STM					GOOD
BAY 3	2"	30'	STM					NEED** REIRG
BAY 2	VARIOUS		STM					*** GOOD
BAY 1	VARIOUS		STM.					*** GOOD

COMMENTS:
* NO INSULATION ON CORNERS (3)
** NO INSULATION
*** HAS BEEN REINSULATED

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.# 512 G
ECO 1

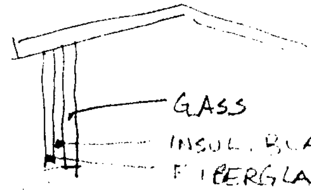
DUCT INSULATION

LOCATION	DUCT CROSSECTION	SHAPE	DUCT TEMP. (°F)	SURROUND AIR TEMP. (°F)	INSULATION TYPE	INSULATION THICKNESS	INSULATION CONDITION
AHU NORTH	3'X2'	□		63°F	FIBERG. W/FOIL	3/4"	GOOD
AHU SOUTH	3'X2'	□	85°F	65F	NONE	NONE	*

COMMENTS:
* NEED TO INSULATE SUPPLY AIR DUCT (≃ THE LENGTH OF BAYS)

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

BLDG.# 512
ECO 2



JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	1 OF
CALCULATED BY:	CEL
CHECKED BY:	
DATE:	1/9/92

WINDOWS SURVEY

WINDOW NO.	SINGLE/DOUBLE PANE	TYPE–SLIDING FIXED, CASEMENT	FRAME MAT'L	ORIENTATION	GLASS SHADING	WINDOW COVER	DIMENSIONS (INCH)
1	SINGLE (WAREHOUSE)	CASEMENT	METAL	ALL	NONE	NONE	5' ... *
2	" *	FIXED	METAL	E & W	PAINTED GREEN	← *	20' x 6' high
	(CLEARSTORY)						length of
3	SINGLE (OFFICE)	CASEMENT	METAL	ALL	~~[illegible]~~ NONE	MINI BLINDS	building

COMMENTS: * see ECO 1 FORM FOR GLASS AREA

EMC ENGINEERS, INC.
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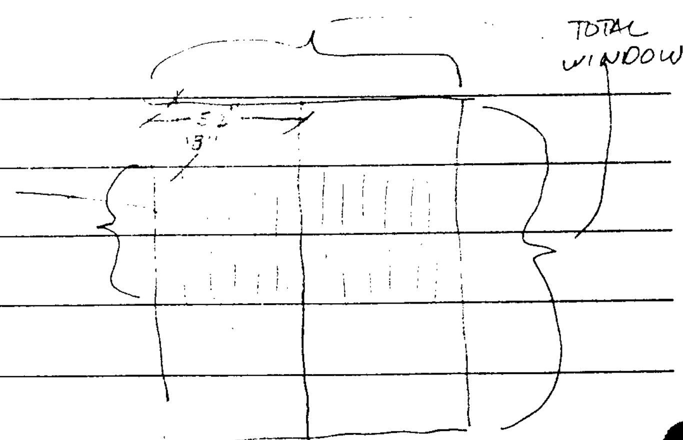
JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: UBL
CHECKED BY:
DATE: 1/9/92

BLDG.# 512-G
ECO 3

WEATHERSTRIPING AND CAULKING

DOOR\ WINDOW	CONDITION OF W.S./CAULK	INFILTRATION	ORIENTATION	DIMENSIONS (INCH)
P. DOOR	W.S. NONE	HIGH	ALL	48x96
WINDOW	CAULK [illegible] W.S. NONE	MED	ALL	52x18 sections *
P. DOOR	W.S. NONE	HIGH	E	72"x36"
OVERH. DOOR	W.S. BOTTOM	HIGH	ALL	10'x10'

COMMENTS:
48x48'' VENT FAN OPEN



THIS PART OPENS NO WEATHERSTRIP

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 512
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S ROOM WEST BAY #2	101°F
BREAK ROOM NORTHWEST BAY # 1	129.4°F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 512 G
ECO 5

MOTORS

MOTOR #	4	HP	3	PH	3	RPM	
MODEL #	BH15C	VOLTS	208	AMPS	7.6		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	TRANE	REQUIRED HR.	700	TO	1545		
FRAME		EFF.					
DESCRIPTION	AHU SOUTH END DX STM	COMMENTS	NO MOTOR NAME PLATE AHU TAG. RECORDED				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 512 G
ECO 5

MOTORS

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS	115 V	AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	UNIT HEATER Δ	COMMENTS	CAN NOT GET NAME PLATE				

MOTOR #	2	HP	5	PH	3	RPM	1740
MODEL #	UVE 184TTDR7627AC L	VOLTS	200	AMPS	14.8		
SERIAL #		PRESENT HR.	0600	TO	~~2400~~ 1600		
MFG	MARATHON	REQUIRED HR.		TO			
FRAME		EFF.	85.5				
DESCRIPTION	AHU NORTH END DX HW	COMMENTS	TIME CLOCK w/ PINS.				

MOTOR #	3	HP	1/12	PH	1	RPM	1725
MODEL #	M09186 3-84	VOLTS	115	AMPS	1.8		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	B & G.	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HW. CIR. PUMP	COMMENTS	SERVE HEATING COIL OF AHU.				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

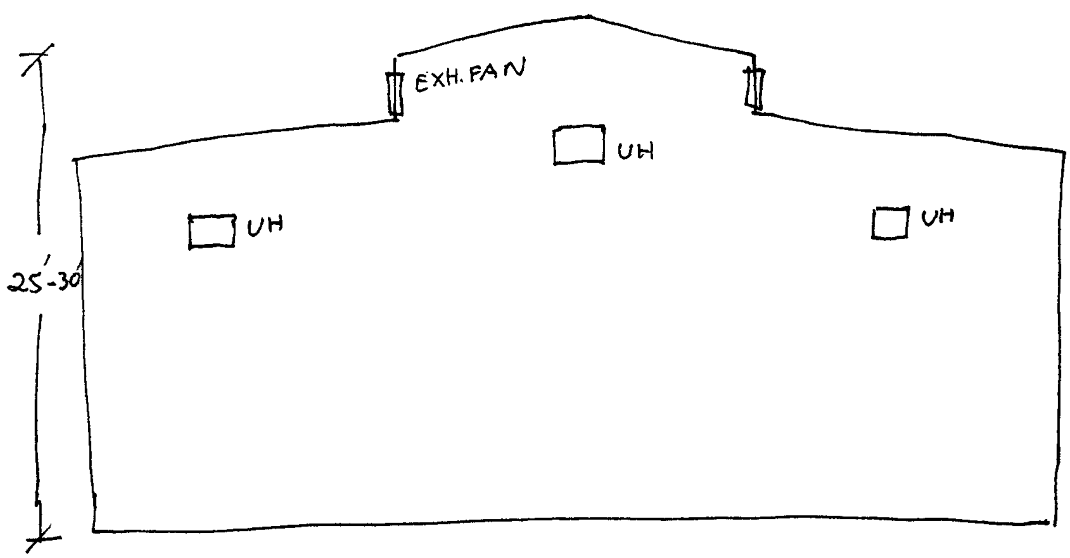
JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 512 G
ECO 10

AIR STRATIFICATION

LOCATION	BAY 1 (TYP. FOR ALL BAYS)	REQ. TEMP.	
TEMP. AT TSTAT		SOURCE	UH.
TEMP. AT CEILING	71 'F	OPP. HOURS	0700 TO 1545
TEMP. AT FLOOR	63 F		

SKETCH ROOM – DIMENSIONS, T-STATS, DUCTS, FANS, ETC.



COMMENTS: EVERY BAY HAS 4 EXH. FANS.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: CS
CHECKED BY:
DATE: 1-9-92

BLDG.# 512
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	43	2 8'	96	F	ON	Y	N	12 CB	N
2	4	2 8'	96	F	ON	Y	Y	1	Y
3	4	2 8'	96	F	ON	Y	N	2	N
4	4	2 8'	96	F	ON	Y	N	2	N
[illegible]	4	4	34	F	ON	Y	N		N
5	12	4	34	F	ON	Y	N	2	N
1	1	1	34	F	ON	Y	N	1	Y
6	67	2 8'	96	F	ON	Y	N	8 CB	N
7	3	2 8'	96	F	ON	Y	N	1	Y
8	3	2 8'	96	F	ON	Y	N	1	N
9	1	4	34	F	ON	Y	N	1	N
10	1	4	34	F	ON	Y	N	1	Y
11	70	2 8'	96	F	ON	Y	N	16 CB	N
	1	2	34	F	ON	Y	N	1	Y
12	106	2 8'	96	F	ON	Y	N	19 CB	N
	5	4	34	F	ON	Y	N		N
	6	1	200	I	OFF	Y	N		N
13	4	2 8'	96	F	ON	Y	N	1	N

NEXT PAGE ALSO

OF EXIT SIGNS – ______

COMMENTS: ______

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: CS
CHECKED BY:
DATE: 1-9-92

BLDG.# 512
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
14	2	2 8'	96	F	ON	Y	N	1	Y
15	22	2 8'	96	F	ON	Y	N	13 CB	Y
16	24	2	34	F	ON	Y	N	3	N
17	44	2	34	F	ON	Y	N	6	N
18	9	2	34	F	ON	Y	N		Y
19	4	2 8'	96	F	ON	Y	Y	1	Y
11	6	1	200	I	OFF		N		N

OF EXIT SIGNS –

COMMENTS:

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. ______ OF ______
CALCULATED BY: CEL
CHECKED BY: ______
DATE: 1/9/92

VI. BUILDING DATA SURVEY OBSERVATIONS

BLDG NO: 512-G BLDG NAME: WAREHOUSE JOB: 3105.000
PRIMARY FUNCTION: ______ GROSS SQ FT ______ NO OF FLRS 1
BUILDING MANAGER NAME: ______
PHONE: ______ OFFICE NO. ______
SPECIAL AREAS: COMPUTER FACILITY [ ] - ZONE NO'S. ______
AUDITORIUM [ ] - ZONE NO'S. ______
LABORATORIES [ ] - ZONE NO'S. ______
CAFETERIA [ ] - ZONE NO'S. ______
OTHER [ ] ______ - ZONE NO'S. ______

ZONE NO. 1 FUNCTION: WAREHOUSE SPECIAL REQ. YES [ ] NO [ ]
LOCATION: ______ (IDENTIFIED ON FLOOR PLAN [ ])
OCCUPANCY HOURS: M-F 7:00 TO 3:45, SAT 0 TO 0, SUN 0 TO 0
PRESENT TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F
REQUIRE TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F

REMARKS: WAREHOUSE HEATING ONLY

ZONE NO. ______ FUNCTION: ______ SPECIAL REQ. YES [ ] NO [ ]
LOCATION: ______ (IDENTIFIED ON FLOOR PLAN [ ])
OCCUPANCY HOURS: M-F ___ TO ___, SAT ___ TO ___, SUN ___ TO ___
PRESENT TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F
REQUIRE TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F

REMARKS: ______

ZONE NO. ______ FUNCTION: ______ SPECIAL REQ. YES [ ] NO [ ]
LOCATION: ______ (IDENTIFIED ON FLOOR PLAN [ ])
OCCUPANCY HOURS: M-F ___ TO ___, SAT ___ TO ___, SUN ___ TO ___
PRESENT TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F
REQUIRE TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F

REMARKS: ______

ZONE NO. ______ FUNCTION: ______ SPECIAL REQ. YES [ ] NO [ ]
LOCATION: ______ (IDENTIFIED ON FLOOR PLAN [ ])
OCCUPANCY HOURS: M-F ___ TO ___, SAT ___ TO ___, SUN ___ TO ___
PRESENT TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F
REQUIRE TEMP: WINTER OCC ___ °F UNOCC ___ °F, SUMMER OCC ___ °F UNOCC ___ °F

REMARKS: ______

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

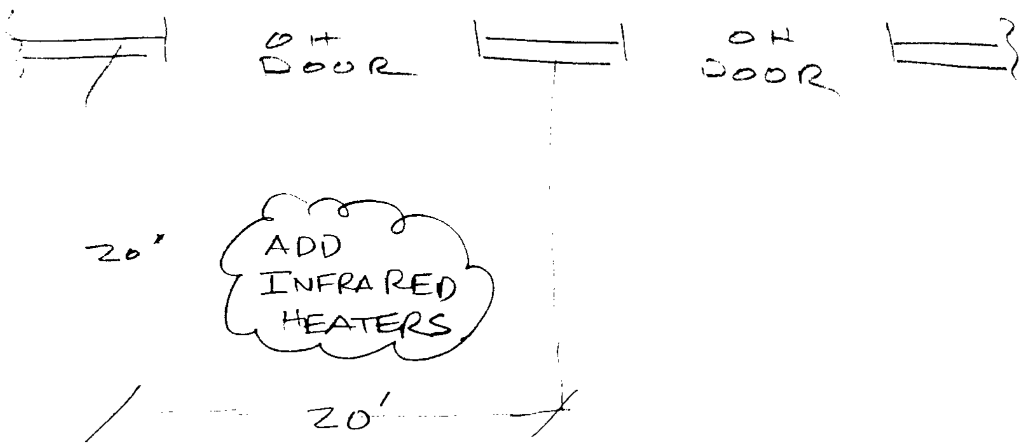
CALCULATED BY CRW DATE 1/9/92

CHECKED BY DATE

SCALE

512-G

O.H. DOORS & I.R. HEATERS



ESTIMATE EACH DOOR USED
1 HOUR PER DAY

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

JOB Gillem
SHEET NO. ______ OF ______
CALCULATED BY CS DATE 1-9-92
CHECKED BY ______ DATE ______
SCALE ______

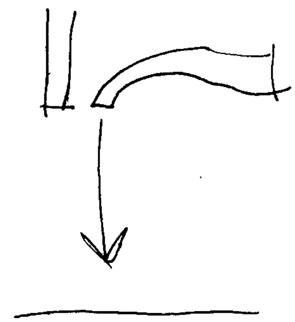
BLDG 512

~~One~~ Two foot tear ~~o~~ in the 3rd bay South End. Small piping.

Two foot tear in North end of the 3rd bay. Two sections are missing covering paper. Small piping.

E M C ENGINEERS, INC.
Denver • Colorado Springs • Atlanta • West Germany

512



HAS AIR CURTAINS?

OH DOOR (WELL SEALED)

DOORS LEFT OPEN WITH UH ON

VENTILATION FANS IN CUPPILO
BARAMETRIC DAMPERS

GAS UH & HW OR STM UH

TEMP 75°F ONE BAY (LIQUOR STR)
65°F OTHERS
74°F T/S SETPOINT
TIMECLOCK INOPERABLE

E M C ENGINEERS, INC.

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BUILDING. 512 G

WARE HOUSE

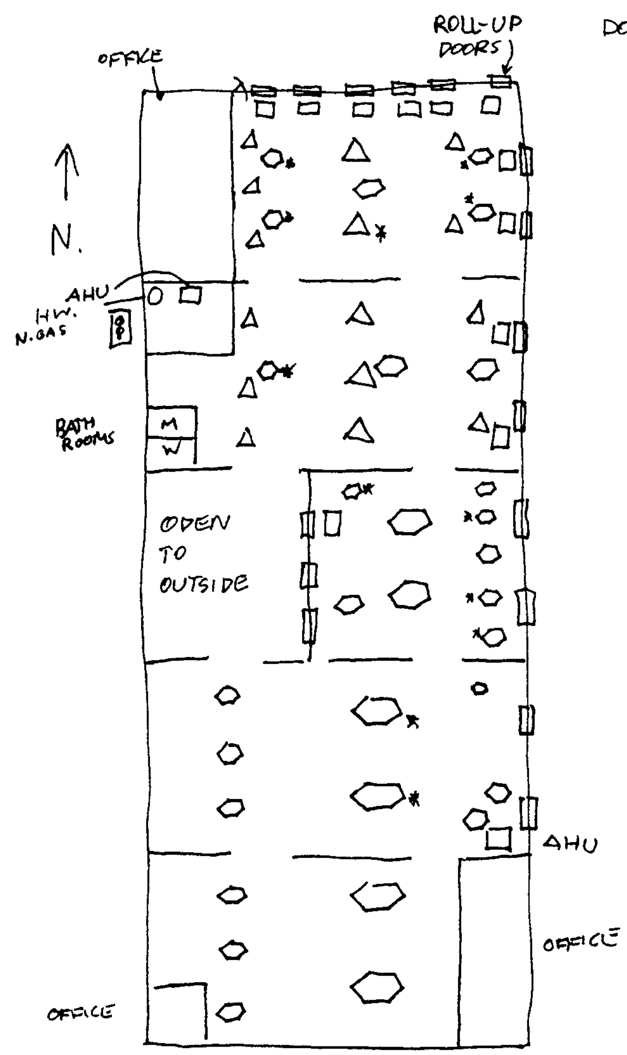
JOB ______

SHEET NO. ______ OF ______

CALCULATED BY KRC DATE 1-9-92

CHECKED BY ______ DATE ______

SCALE ______



DOORS 10'×10' DON'T WORK

□ GAS-FIRE UNIT HEATERS OVER ROLL UP DOOR

△ " ______ ~ WORKING.

✱ RUNNING.

⬡ STM COIL UH.

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 512

JOB

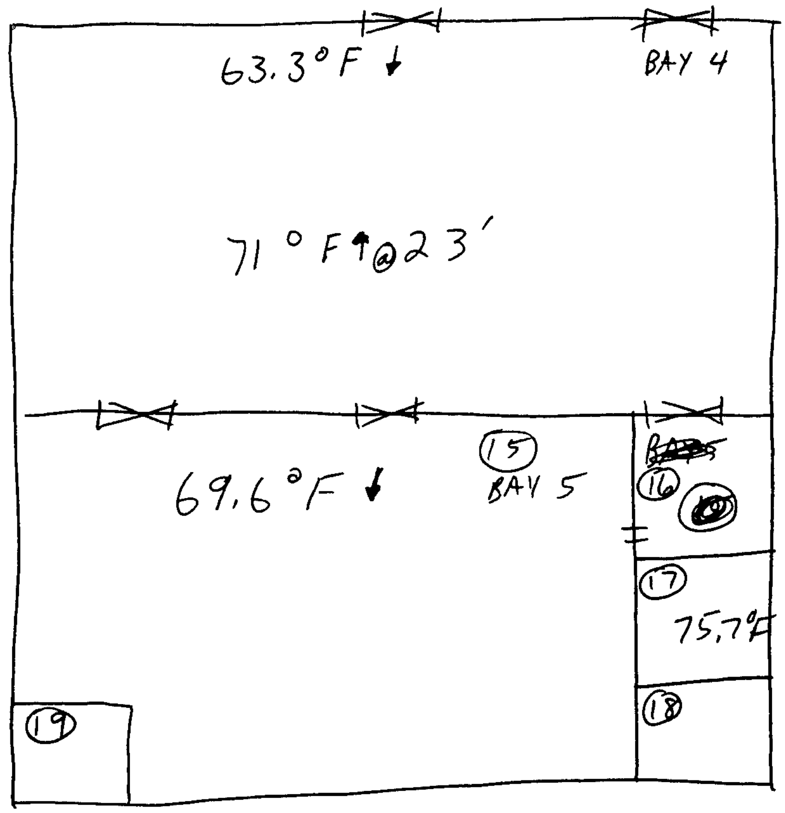
SHEET NO. OF

CALCULATED BY JW DATE 1/9/92

CHECKED BY DATE

SCALE

N



OFFICE HRS 7:00-3:45pm

JOB

SHEET NO. OF

CALCULATED BY JW DATE 1/9/82

CHECKED BY DATE

SCALE

E M C ENGINEERS, INC.

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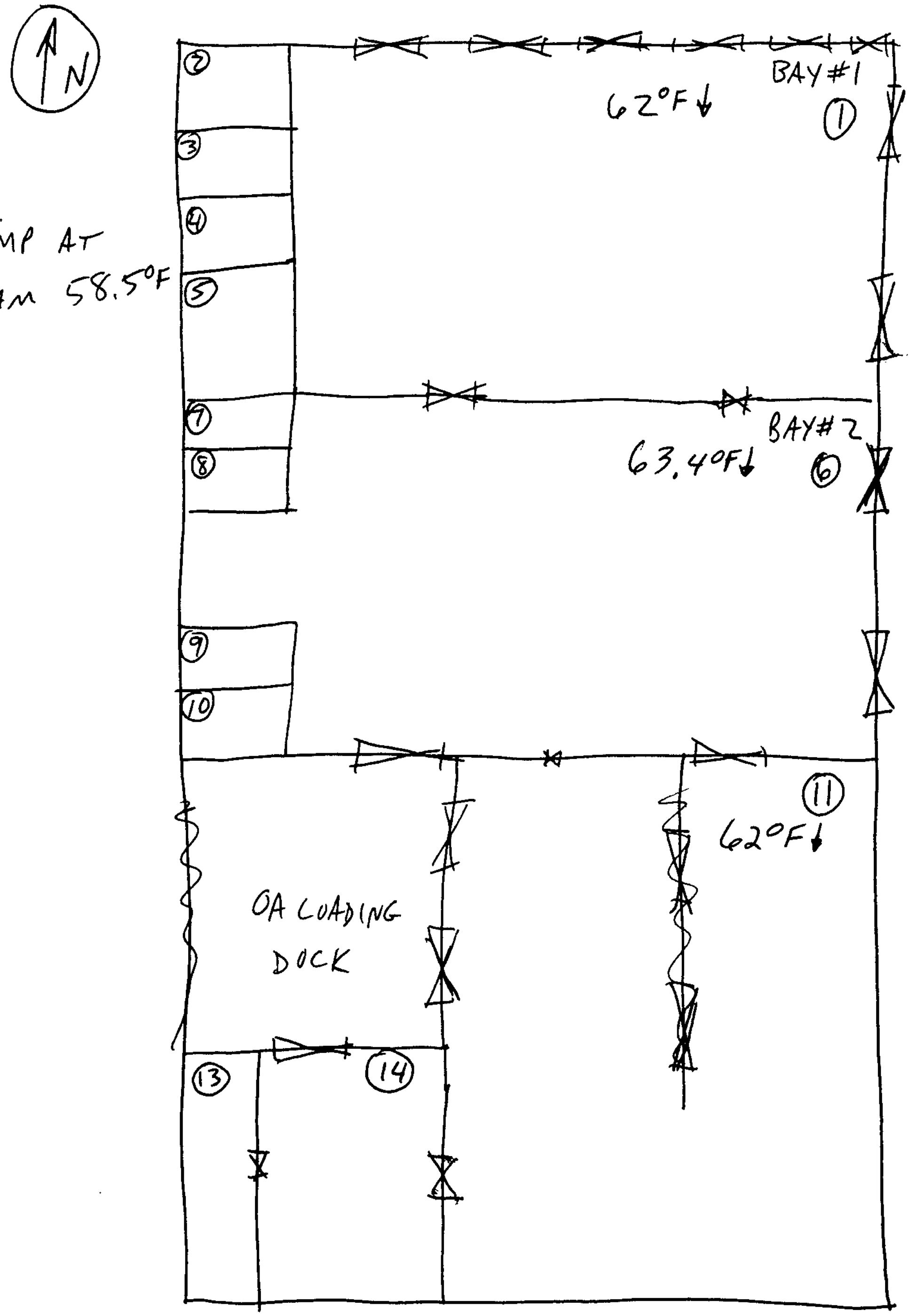
BLDG 512

OA TEMP AT
9:45AM 58.5°F



BUILDING 513

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 513
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
~~North~~ EAST WOMEN'S ROOM	144°F
EAST MEN'S ROOM	151°F

PROBLEMS:	

COMMENTS:

E M C ENGINEERS, INC.

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BLDG 513

JOB

SHEET NO. OF

CALCULATED BY JW DATE 1/9/92

CHECKED BY DATE

SCALE

INADEQUATE LIGHTING

BAY 4, SOUTH TWO ISLES HAVE POOR LIGHTING.

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

BLDG 5136

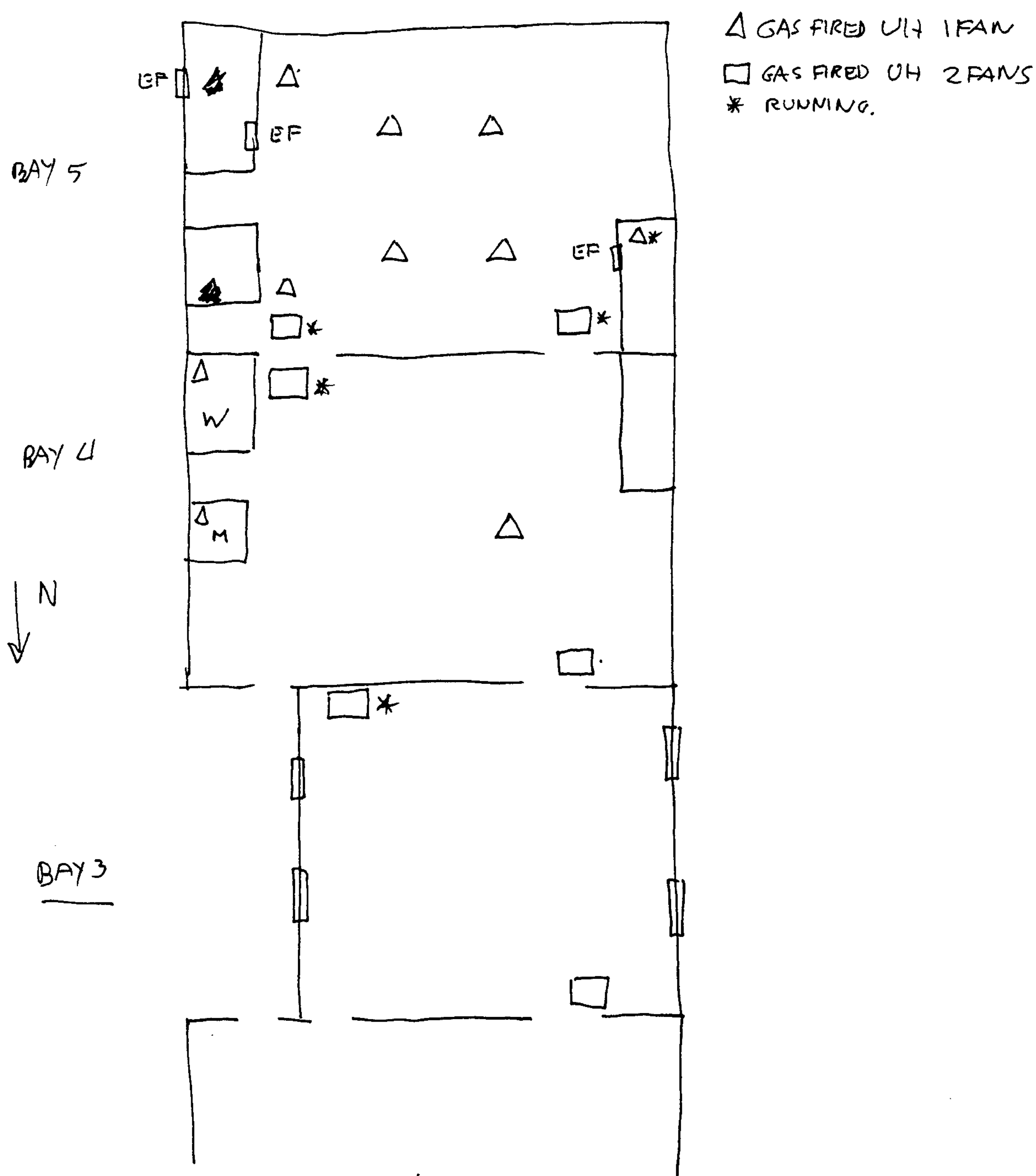
JOB

SHEET NO. OF

CALCULATED BY KC DATE 1-9-92

CHECKED BY DATE

SCALE



SEE CARL'S SKETCH.

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

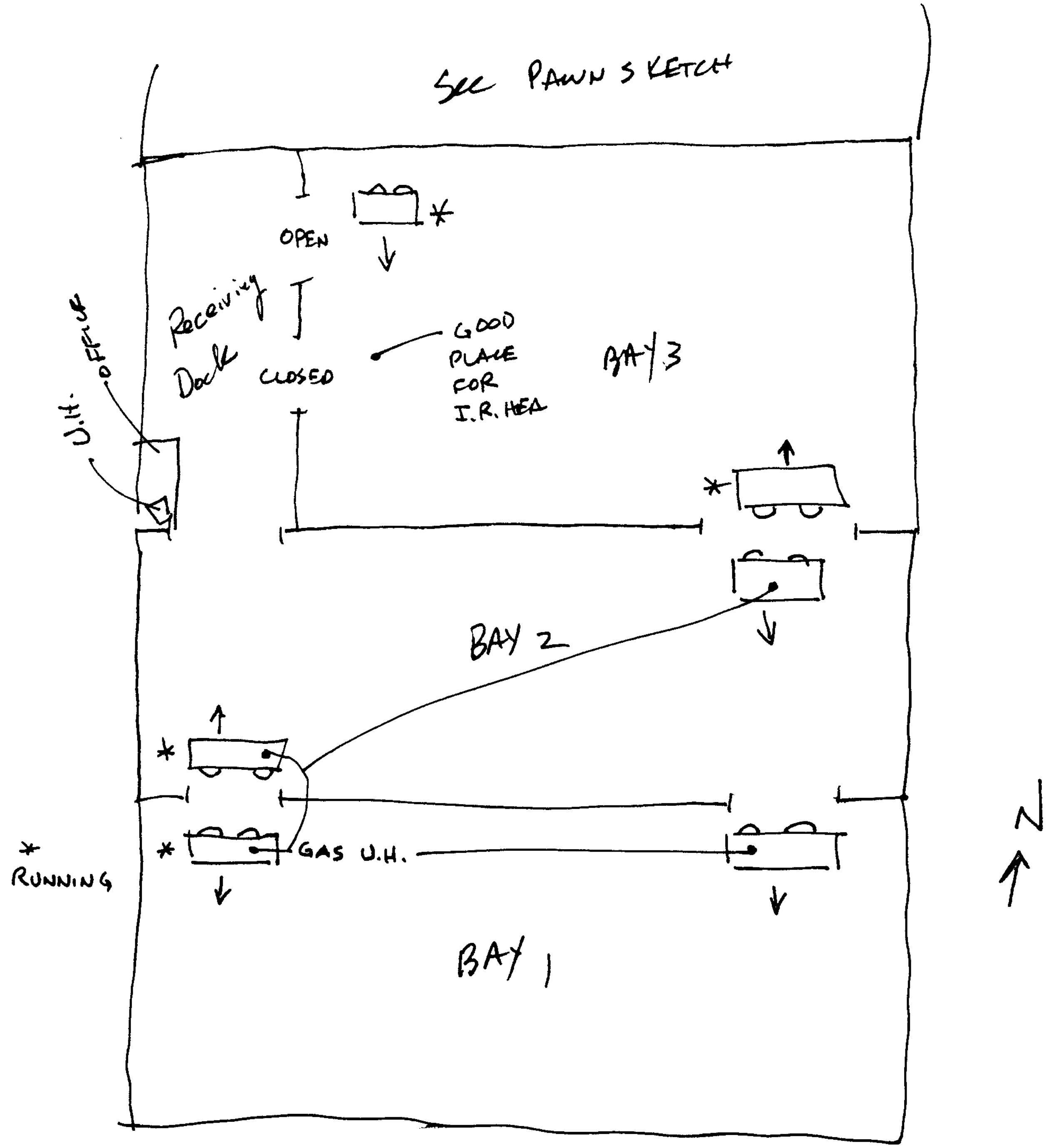
SHEET NO. OF

CALCULATED BY CBL DATE 1/9/92

CHECKED BY DATE

SCALE

513-G



BUILDING 735

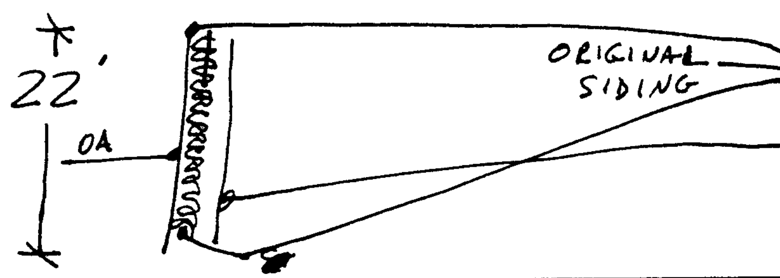
EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

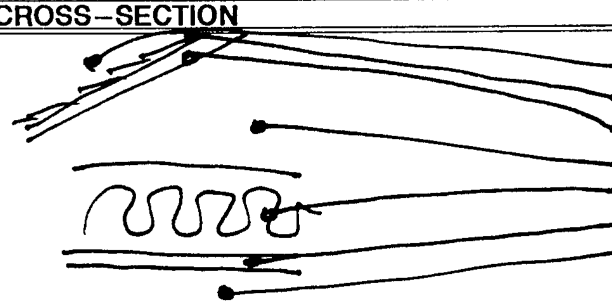
JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/9/92

BLDG.# 735
ECO 1

WALL & ROOF INSULATION

AREAS IN SQ. FEET	NORTH	SOUTH	EAST	WEST
WALLS				
WINDOWS				
OVERHEAD DOORS				
PERSONNEL DOORS				

SKETCH WALL CROSS-SECTION	COMPONENTS	
	1. OUTSIDE AIR FILM	.17
	2. VINAL SIDING	0.61
	3. STYROFOAM 1"	0.61
	4. FRAME	3.33
	5. GYPBOARD	0.45
	6.	
	7. INSIDE AIR FILM	.68
		5.85

SKETCH ROOF CROSS-SECTION	COMPONENTS	
	1. OUTSIDE AIR FILM	.17
	2. SHINGLE	0.44
	3. WOOD DECK	0.62
	4. AIR SPACE	1.24
	5. 6" BLOWN-IN FIBER	20.0
	6. GYP BRD	0.45
	7. INSIDE AIR FILM	.68
		23.6

PERSONNEL DOOR TYPE	METAL (& WOOD)	BASEMENT [ ]
OVERHEAD DOOR TYPE	NONE	SLAB [✓]
		CRAWL SPACE [ ]

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

BLDG.# 735 G
ECO 1

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

PIPE INSULATION

LOCATION	PIPE DIAMETER	PIPE LENGTH	FLUID TYPE	FLUID TEMP.	AIR TEMP.	INSULATION TYPE	INSULATION THICKNESS	INSULATION CONDITION
MECH. ROOM	2"	30'	HW	125°F	62°F	FIB. w/ PAPER	2"	GOOD

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

BLDG.# 735 G
ECO 1

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

DUCT INSULATION

LOCATION	DUCT CROSSECTION	SHAPE	DUCT TEMP. (°F)	SURROUND AIR TEMP. (°F)	INSULATION TYPE	INSULATION THICKNESS	INSULATION CONDITION
Mech room	20"X20" ≃25' long	□	*	62	NONE	NONE	
"	40"X40" ≃10' long	□	*	62			

COMMENTS: * NOT RUNNING.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 735
ECO 2

WINDOWS SURVEY

WINDOW NO.	SINGLE/DOUBLE PANE	TYPE–SLIDING FIXED, CASEMENT	FRAME MAT'L	ORIENTATION	GLASS SHADING	WINDOW COVER	DIMENSIONS (INCH)
	SINGLE	SLIDING	WOOD	N/S/E/W	NONE	CURTAINS	REFER TO WEATHERSTRIP FORM

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 735
ECO 3

WEATHERSTRIPING AND CAULKING

DOOR\ WINDOW	CONDITION OF W.S./CAULK	INFILTRATION	ORIENTATION	DIMENSIONS (INCH)	
W	FAIR	LOW	E	30X53	1
D		MED	E	64 X 80	1
W		LOW	E	30X27	1
D		MED	N	64 X 80	2
W		LOW	N	30X53	1
D		MED	N	30X70	1
W		LOW	W	30X54	2
D		HIGH	S	64X80	2
W		LOW	S	30X54	1
W		LOW	S	30X27	1

COMMENTS:
DOUBLE DOOR ON SOUTH EAST CORNER HAS 1/4" AIR GAP BETWEEN.

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	JW
CHECKED BY:	
DATE:	1/9/92

BLDG.# 735
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S	155°
WOMEN'S	155°
PROBLEMS:	

COMMENTS: ELECTRIC
AIR TEMP = 68°F

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.: EMC # 3105.000
SHEET NO.: ______ OF ______
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.# 735
ECO 5

10+ HP MOTORS
MEASURED

MOTOR# 1
DESCRIPTION AHU
MFG GOULD
MODEL # 6339075-0
SERIAL #
FRAME S 215T
HP 10 RPM 1750
VOLT 200
AMPS 30
EFF.

	PHASE A	PHASE B	PHASE C
VOLTS	208.4	208.4	
AMPS	23	23	
KVAR	5.4 ~~4.56.2~~		
KVA	4 8.2		
KW	1.0 76.2		
PF	75.6		

PRESENT ______ TO ______
REQ HR. ______ TO ______

COMMENTS T'STAT CONTROL @ 70°F.

MOTOR# ______
DESCRIPTION ______
MFG ______
MODEL # ______
SERIAL # ______
FRAME ______
HP ______ RPM ______
VOLT ______
AMPS ______
EFF. ______

	PHASE A	PHASE B	PHASE C
VOLTS			
AMPS			
KVAR			
KVA			
KW			
PF			

PRESENT ______ TO ______
REQ HR. ______ TO ______

COMMENTS ______

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 735
ECO 5

MOTORS

MOTOR #	1	HP	10	PH	3	RPM	1750
MODEL #	6339075-01	VOLTS	200	AMPS	30		
SERIAL #		PRESENT HR.		TO			
MFG	GOULD	REQUIRED HR.		TO			
FRAME	S215T	EFF.					
DESCRIPTION	AHU MOTOR SEE 10HP FORM	COMMENTS	NOT RUNNING. NEITHER AS BOILER BUILDING LOCK.				

MOTOR #	2	HP	1/2	PH	1	RPM	1725
MODEL #	8-16578-20	VOLTS	115	AMPS	7.3		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	CENTURY	REQUIRED HR.		TO			
FRAME	J56J	EFF.					
DESCRIPTION	HW PUMP	COMMENTS	RUNNING				

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

BUILDING 918

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJ.#	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	CS
CHECKED BY:	
DATE:	1-9-92

BLDG.# 918
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
SINK IN MECH. ROOM (NEXT TO HEATER)	131° F
MEN'S ROOM	127° F
PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 918G
ECO 5

MOTORS

MOTOR #	1	HP	2	PH	3	RPM	1725
MODEL #	8-16460-01	VOLTS	230	AMPS	6.8		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	MAGNETEK	REQUIRED HR.	M-SAT 3:00PM -11:00PM SUN 1:00PM	TO	9:00PM		
FRAME	PA56	EFF.					
DESCRIPTION	AHU. DX HEAT PUMP	COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

MOTOR #		HP		PH		RPM	
MODEL #		VOLTS		AMPS			
SERIAL #		PRESENT HR.		TO			
MFG		REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION		COMMENTS					

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJ.#: EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 918 BOWLING
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	60	4	34	F	ON	Y	N		N
2	1	2	34	F	OFF	Y	Y	1	N
3	2	2	34	F	OFF	Y	N	1	N
4	2	1	100	I	OFF	Y	N	1	N
5	7	2	34	F	ON	Y	N	1	N
6	3	2	96	F	OFF	Y	Y	1	N
7	7	4	34	F	ON	Y	N	1	N
8	2	2	34	F	ON	Y	Y	1	Y
9	2	4	34	F	ON	Y	Y	1	Y
10	2	2	34	F	ON	Y	N	1	Y
11	5	4	34	F	ON	Y	N	1	Y
12	2	2-U		F	OFF	Y	N	1	N
13	2/1	2-U/2	/34	F	ON	Y	N	1	Y
14	1								

OF EXIT SIGNS – ________

COMMENTS:

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB

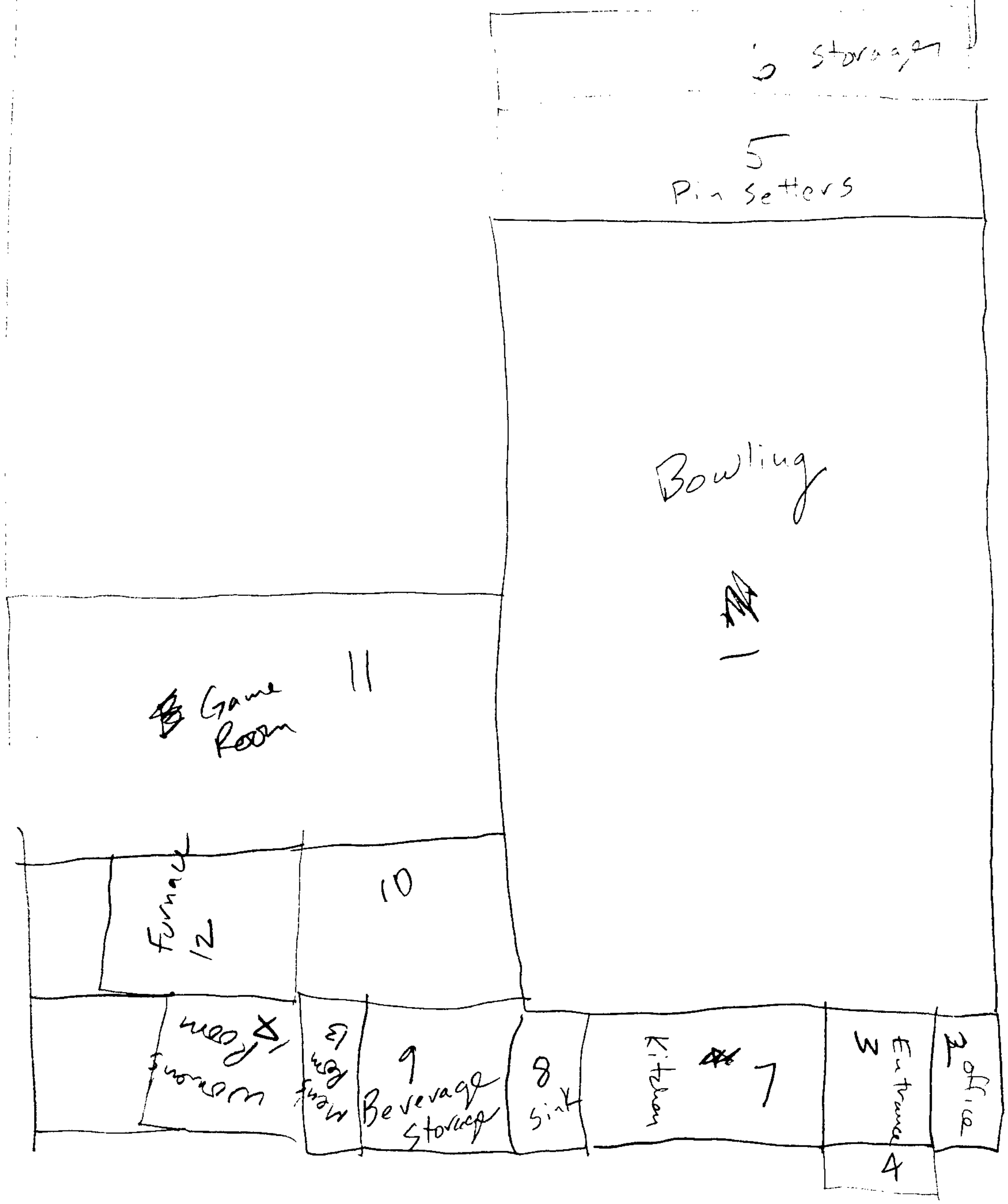
SHEET NO. OF

CALCULATED BY CKL DATE 1/9/92

CHECKED BY DATE

SCALE

918



BUILDING 935

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 935
ECO 4

DOMESTIC HOT WATER

FAUCET LOCATION	WATER TEMPERATURE
MEN'S LOCKER RM.	129°F

PROBLEMS:	

COMMENTS:

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 935 G
ECO 5

MOTORS

MOTOR #	5	HP	5	PH	3	RPM	3460
MODEL #	6-35725-01	VOLTS	230	AMPS	12.8		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	CENTURY	REQUIRED HR.	0700	TO	1900		
FRAME	B182TO	EFF.	82.5	PF = 89.5			
DESCRIPTION	HWP NEAR BOILER #1	COMMENTS	MAKES ALOT OF NOISE				

MOTOR #	6	HP	5	PH	3	RPM	1740
MODEL #	2N937J	VOLTS	208	AMPS	14.7		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	DAYTON.	REQUIRED HR.	0700	TO	1900 M-F		
FRAME	215	EFF.	86.5				
DESCRIPTION	AHU ~~#4~~ 5 NEAR BOILER	COMMENTS	HEATING ONLY				

MOTOR #	7	HP	1/12	PH	1	RPM	1725
MODEL #	M09181 4-84	VOLTS	115	AMPS	1.75		
SERIAL #		PRESENT HR.	0	TO	2400		
MFG	B&G	REQUIRED HR.		TO			
FRAME		EFF.					
DESCRIPTION	HW CIRC. PUMP. #3	COMMENTS	OFF DURING SURVEY				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB	Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO.	EMC # 3105.000
SHEET NO.	OF
CALCULATED BY:	KC
CHECKED BY:	
DATE:	1-9-92

BLDG.# 935 G.
ECO 5

MOTORS

MOTOR #	1	HP	1 1/2	PH	3	RPM	1750
MODEL #	184-71225-00	VOLTS	208	AMPS	4.8		
SERIAL #		PRESENT HR.	~~0700~~	TO	M-F ~~1900~~		
MFG	WAGNER	REQUIRED HR.	0700	TO	1900		
FRAME	184	EFF.					
DESCRIPTION	AHU IN WEIGHT ROOM #4	COMMENTS	T'STAT CONTROL OLD MOTOR.				

MOTOR #	2,3	HP	3/4	PH	1	RPM	—
MODEL #		VOLTS	240	AMPS	6.8		
SERIAL #		PRESENT HR.	0000	TO	2400		
MFG	COMFORTMAKER	REQUIRED HR.	0700	TO	1900		
FRAME		EFF.					
DESCRIPTION	AHU FOR RACKETBALL COURTS #2,3 (2) DX COOLING	COMMENTS	ELEC HEATER 208V 3Ø 34A				

MOTOR #	4	HP	3/4	PH	3	RPM	1750
MODEL #	NO MODEL # HYDRO FLOW ELEC. MTR	VOLTS	208	AMPS	2.5		
SERIAL #		PRESENT HR.	0	TO	WINTER 2400		
MFG	B&G	REQUIRED HR.	0700	TO	1900		
FRAME	203	EFF.					
DESCRIPTION	HW PUMP NEAR BOILER #2	COMMENTS	OLD MOTOR				

EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB: Ft. McPherson/Ft. Gillem Energy Study
PROJECT NO. EMC # 3105.000
SHEET NO. ____ OF ____
CALCULATED BY: KC
CHECKED BY:
DATE: 1-9-92

BLDG.# 935G'
ECO 5

MOTORS

MOTOR # 8 HP 1/6 PH 1 RPM 1725
MODEL # M10293 1-88 VOLTS 115 AMPS 2.4
SERIAL # PRESENT HR. 0 TO 2400
MFG BG REQUIRED HR. TO
FRAME EFF.
DESCRIPTION D HW CIRC. PUMP #1 COMMENTS

MOTOR # 9 HP 3 PH 3 RPM 3450
MODEL # H 736 VOLTS 200-230/460 AMPS 9.0-8.6
SERIAL # PRESENT HR. 0~~24~~ TO 2400
MFG CENTURY REQUIRED HR. 0700 TO 1900 M-F
FRAME L56C EFF.
DESCRIPTION HW CIRC. PUMP #2 COMMENTS
PART 8-142017-01

MOTOR # 10 HP 2 PH 3 RPM 1750
MODEL # No MOD# VOLTS 208 AMPS 6.1
SERIAL # 80464 PRESENT HR. 0 TO 2400
MFG BG REQUIRED HR. TO
FRAME 224 EFF.
DESCRIPTION AHU HEATING COIL #1 COMMENTS

JOB

SHEET NO. OF

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

CALCULATED BY DATE

CHECKED BY DATE

SCALE

Bldg 935

Shower - full flow

30 sec = 9 quarts

7.5 quarts

low full - won't fit

E M C ENGINEERS, INC.
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JOB ______
SHEET NO. ______ OF ______
CALCULATED BY ______ DATE ______
CHECKED BY ______ DATE ______
SCALE ______

935

> 8 showers in the mens locker room

Other ECO's
- low flow showers
-

E M C ENGINEERS, INC.

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BLDG 935G

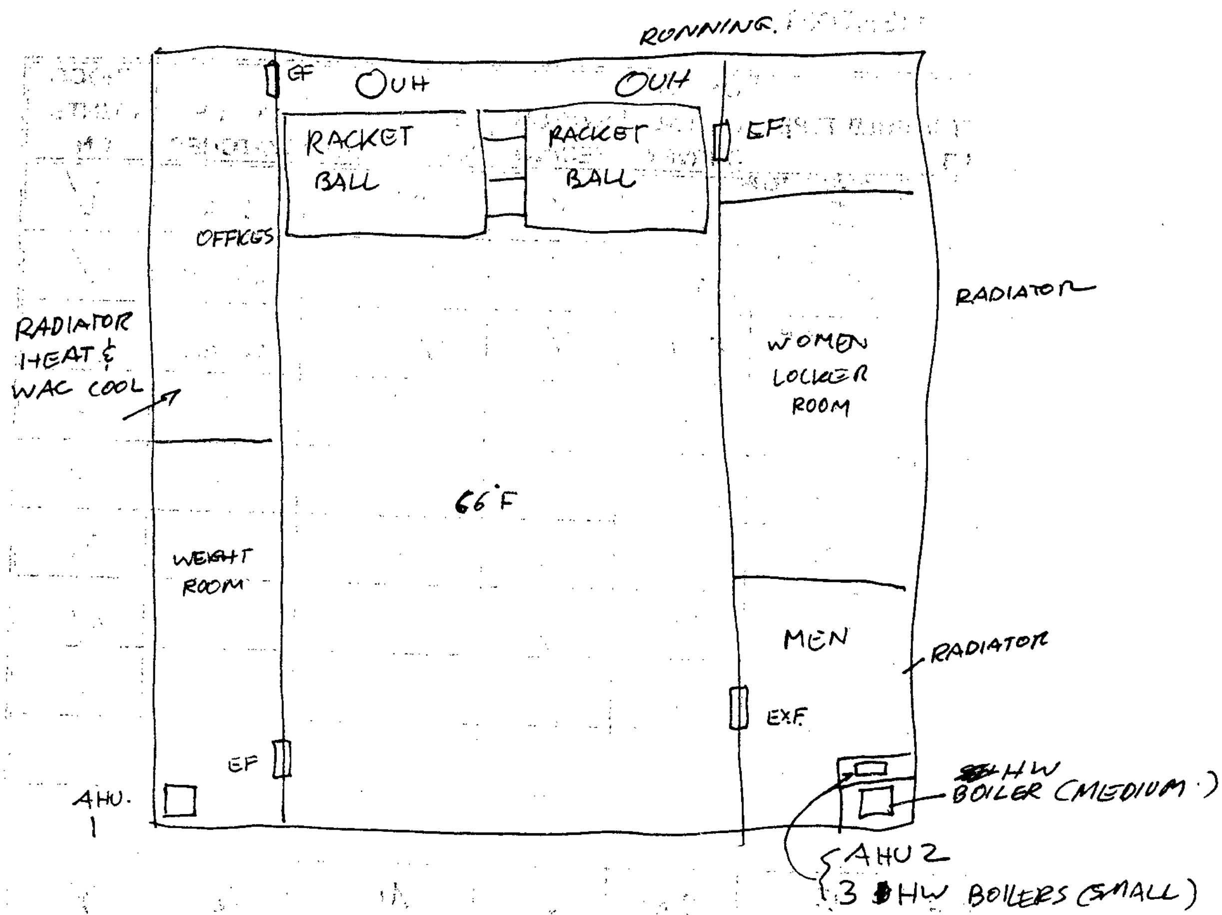
JOB ______

SHEET NO. ______ OF ______

CALCULATED BY KC DATE 1-9-92

CHECKED BY ______ DATE ______

SCALE ______



EMC ENGINEERS, INC.
DENVER * ATLANTA * GERMANY

JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 935
EC0 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
1	36	1	400	METAL HALIDE I	ON	Y	N	C.B.	N
2	6	1	400	I MH	ON	Y	N	C.B.	N
3	6	1	400	I MH	ON	Y	N	C.B.	N
4	2	4	34	F	ON	N	Y	0	Y
5	2	1	50	I	ON	N	Y	0	Y
6	3	2	34	F	ON	Y	Y	1	N
6	3	2	34	F	ON	Y	Y	1	N
6	3	2	34	F	ON	Y	Y	1	N
7	under construction								
8	~~[illegible]~~ 1	1	150	I	ON	Y	Y	1	Y
9	9	2	34	F	ON	Y	N	2	Y
10	8	1	150	I	ON	Y	Y	2	Y
2-A	3	1	34	F	ON	Y	Y	1	Y
11	9	2	34	F	ON	Y	Y	2	Y
12	LOCKED								
13	4	1	~~[illegible]~~ 200	I	ON	Y	N	1	Y
14	4	4	34	F	ON	Y	Y	1	N
15	1	~~[illegible]~~ 2	34	F	OFF	Y	N	1	Y

OF EXIT SIGNS –

COMMENTS:

EMC ENGINEERS, INC.
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JOB Ft. McPherson/Ft. Gillem Energy Study
PROJ.# EMC # 3105.000
SHEET NO. OF
CALCULATED BY: JW
CHECKED BY:
DATE: 1/9/92

BLDG.# 935
ECO 15

LIGHTING

ROOM #	# OF FIXTURES	LAMPS/ FIXTURE	WATTS/ BULB	BULB TYPE	ON/OFF DURING SURVEY	SWITCH YES/NO	GOOD FOR OCC. SENSOR	NO. OF SWITCHES	UNOCC LIGHTS ON
16	3	2	34	F	ON	Y	N	2	Y
17	30	2	34	F	ON	Y	N	3	N
18	15	2	34	F	OFF	Y	Y	3	N
19	10	2	34	F	OFF	Y	Y	2	N
~~20~~									
21	~~2~~	~~1~~							

OF EXIT SIGNS –

COMMENTS:

E M C ENGINEERS, INC.

Denver • Colorado Springs • Atlanta • West Germany

JOB
SHEET NO. ____ OF ____
CALCULATED BY CBL DATE 1/9/97
CHECKED BY ____ DATE ____
SCALE

935

129°F